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"SOLDIERS OF CIVILIZATION."

As you gather in your camps to begin the training which will fit you to become the "Saviors of Civilization," let your mind and your soul be thrilled with the thought that four-fifths of the world waits with eagerness upon your work; that millions and tens of millions of women and children in other lands, as well as in our own, will be daily praying that strength of body and wholesomeness of life may be yours as you go forth to battle for the womanhood of the world. They will be ever praying that Divine power may be given you in this supreme effort of civilization to stem the onrush of barbarism. Every woman will feel that you are fighting to save her from the horrors of outraged womanhood in Belgium and France.

Around millions of firesides as families gather in the evening there will arise devout prayers for you, and millions of men and women as they walk the streets, or do their accustomed work, will have hearts full of praise for you and full of prayer to Almighty God to shield you from harm, to give you true manhood in its largest sense, and to open your eyes that you may see how they and all the world stand with uncovered head in your presence.

To you and the loved ones you are leaving the nation pledges its utmost power, its tenderest sympathy, its never-ending gratitude, that you and they may know that as it will never forget your sacrifice, so it will never forget their welfare.

Go forth then, ye "Saviors of Civilization," with uplifted head, with a firm tread, with hearts afire for the right, and know that the missionary of the Cross as in olden days he risked his life in the wilds of heathen lands never did a sublimer work than that to which you have dedicated your lives. And God be with you.

"HOLD THE FORT, FOR WE ARE COMING"

THE MESSAGE OF AMERICAN SOLDIERS TO THE SOLDIERS OF THE ALLIES.

To their comrades in arms in Europe who for three years have made the most heroic fight of the ages against the world's greatest war machine which had been building for half a century, and the most fiendish barbarism known to civilization, the American soldiers now send their greeting and promise of help in the words of the well-known hymn, "Hold the Fort, for We Are Coming."

To these comrades in arms the American soldiers say: You have saved civilization. You have poured out your blood and your treasure for us as well as for your own countries, and now we are coming, backed by all the power of this country of limitless resources in raw materials, in agricultural and manufacturing potentialities; a country of 100,000,000 people; a country which hesitated long, but which has now awakened with righteous wrath that means death to barbarism. And to you, therefore, we would send a message (with apologies to the memory of Sankey for changes) as follows:

HOLD THE FORT, FOR WE ARE COMING.

1

Ho, our comrades! see the signal
Waving in the sky!
Reinforcements now appearing,
Victory is nigh.

2

See the glorious banner waving!
Hear the bugle blow!
Democracy's cause will triumph
Over every foe.

3

Fierce and long the battle rages,
But our help is near;
Onward moves our mighty army,
Cheer, our comrades, cheer.

Hold the fort, for we are coming.

"BUSY MIND-POISONERS" AT WORK EVERWHERE IN MANY DISGUISES.

THE United States Postmaster at Monroe, La., Mr. John T. Bryant, in a letter to the MANUFACTURERS RECORD makes some statements which must prove somewhat of a revelation to many people not familiar with conditions—we had started to say in some country districts, but, unfortunately, similar conditions are existing in many cities, for Chicago, for example, is a living illustration, through its Mayor, whose treasonable work should be crushed by the Government, of how widespread is the treason and the traitorous campaign now under way. Only a day ago the MANUFACTURERS RECORD learned that in a big public service corporation office in Baltimore a pro-German never misses a chance to bemoan the fate of the million American soldiers to be sent to France, while claiming that our Government was dooming them to death, and in every way possible doing all he can to injure this country and help Germany, and yet not an American in the office has had the patriotism and courage to knock him down or have him arrested.

In his letter Mr. Bryant refers to the influence of book agents and Bible vendors traveling through the country posing as Americans and seeking to influence public sentiment against the sending of our soldiers to France. It has been repeatedly stated that these so-called Bible agents, posing as pious men, carrying on this work in the name of Christianity, are, in many cases, but the spies and the agents of Germany in this country, and, as someone has said, "clothed with the livery of Heaven in order the better to do the devil's work." These men are throwing suspicion upon the work of honest, God-fearing Bible agents and colporteurs. This, however, is not the worst of their work. The poison which they are injecting into many minds sinks deeper into the life and welfare of the nation than even the temporary injury which may come to many honest, legitimate Bible agents, colporteurs and book agents.

Mr. Bryant makes some statements which demand the attention of the Government and of every religious organization as well. His letter is as follows:

Monroe, La., August 27, 1917.

I have read from time to time, with satisfaction and hearty approval, your splendid articles bearing upon the attitude of the United States and the duty of our citizenship in this world war for the preservation of human liberty and the safeguarding of Democracy throughout the earth.

I have recently returned from my vacation in the rural sections of Bienville and Jackson parishes of Louisiana; that portion of rural Louisiana where I spent the happiest days of my life—my schoolboy days and the early days of my young manhood.

This portion of Louisiana, like many other sections of the South, is rather remote from transportation and the more modern facilities of human progress, the people depending almost exclusively upon agriculture for a livelihood and, owing to the absence of markets for any other farm products, confining their efforts principally to cotton for their main money crop.

These people are law-abiding, peace-loving citizens and largely church members, but owing to the want of proper instruction and the lack of proper dissemination of a true knowledge of the causes which forced our country into this world war, a large number of these rural people are skeptical. There is a note of dissatisfaction in their attitude toward our Government and in their conversation relative to their duty as citizens in the face of this crisis, approaching nigh unto disloyalty if not treason.

A large per cent. of these people do not read, and where they do read they read the wrong papers. Their minds have either been warped with pro-German literature, Socialistic poison, or they have taken no paper at all and therefore do not know and cannot realize the great danger hanging over them and threatening the very existence of our democratic government.

I cut my 15 days' leave of absence in half and returned to my post as Postmaster at Monroe, La., in order to report this condition. Something should be done, and

must be done quickly, to enlighten these country people and set them aright, and in my opinion the best and quickest way to do this is through their local preachers, school teachers and doctors.

President Wilson's famous war message of May 18, 1917, should be put in the hands of every country preacher, school teacher and doctor throughout the land, and the question: "Why is it necessary for us to send our boys to the trenches of France to be slaughtered?" answered simply, forcefully and conclusively. This famous message, with this answer, should be printed and sent by the Government to each second, third and fourth-class postmaster throughout the country with instructions to hand one to each country preacher, country school teacher and country doctor.

The idea of sending our Congressmen over the country to attend our Chautauquas, after Congress adjourns, to preach the doctrine of patriotism, public and private duty in the face of our present world crisis, is all right, so far as it goes, but the class of our citizenship who attend chautauquas are not the class who need this instruction.

The non-reading, uneducated countryman, whose sympathy and co-operation the Government should and must have, and who most needs the protections of this Government, cannot be reached through the Chautauqua. We must reach them through their preacher, their children's teacher and the family doctor; and now, while the summer revival is in progress throughout the country, is the accepted time.

I was surprised, pained and sorely disappointed while attending the services at these country churches during my vacation not to hear a single reference from preacher or layman, in prayer or sermon, to this horrible war.

And this unhealthy condition, to a great extent, is traceable to the quiet influence of pious (?) book agents, Bible vendors, and citizens of German birth and extraction, who never lost a chance to refer with pained pity to the horror of having "Our Boys" sent to France and slain by the "Unconquerable Germans". All loyal Americans, regardless of where they were born, should now organize and be ready to handle without gloves the German propagandist, whether he be transient or local.

These mind-poisoners are busy in every community, both urban and rural, and, unfortunately, our laws were not made to meet such unusual conditions.

There should be no room under the protecting folds of Old Glory for the insidious mind-poisoner, the spy, the alien enemy or the traitor. All pro-Germans and German sympathizers should be put where they can do no harm and kept there until this war is won, and all spies and traitors shown no quarter.

Owing to the wide circulation of your splendid journal and the extensive manner in which you are quoted by the Southern press, you are in position to do a great work in correcting and preventing the evils and abuses above enumerated and you are doing a wonderful service along this line.

Mr. Bryant's suggestions are good. Throughout the South summer is the time of camp-meetings, protracted meetings and revival services, especially in the country districts, among whites and negroes alike. At such seasons there are constant gatherings of church members, as well as of those who are not members of any church. These occasions take on more or less social and community life. An effort should be made, and made quickly, to reach all of these people through the preachers and the teachers and the physicians of whites and blacks alike.

The Southern Baptist Food Commission, appointed by the president of the Southern Baptist Convention at the request of Food Administrator Hoover, has already arranged to keep in correspondence with every Baptist pastor, white and colored, in the South—about 20,000—bringing to their attention the need of food conservation in order that this country may win the war. But more than that, this commission will endeavor, in its food conservation work, to quicken the thought of the people as to the need of sacrifice and service, which, from food conservation, can be carried into all other work connected with the war and with religious life.

We take it for granted that other denominations will carry on a similar campaign in every part of the country, for in this way a vast amount of information can be given to the preachers and then, from the pulpits, to the members of country churches and city churches alike.

Some way should also be devised for reaching every school teacher in the United States and to make certain that, in their work in private and public

schools, the seriousness of the war, the reality of the issues at stake, may be pressed upon the young people, who will be certain to carry the message from the school to the parents at home. Mr. Bryant also wisely includes physicians in his plan, and this is especially important in small towns and country districts where the family doctor greatly influences public sentiment.

CONGRESS AND THE NEWSPAPER POST-AGE BILL.

ONE of the strongest illustrations that could possibly be given of the hopeless mental incapacity of some men in Congress to think honestly, is found in a statement made by Senator Stone of Missouri. In the course of a recent speech he said:

"While this pitiless storm of editorial mendacity was beating upon me, I was using my influence on the Finance Committee to prevent what I considered unjust taxation of publications."

There are two possible interpretations of this statement. One is that Senator Stone was claiming some special virtue because he voted according to what his alleged conscience dictated, and the other is that because he was voting against taxation upon newspapers he should have been free from editorial criticisms.

Was he under the impression that because he was voting against an increased postal rate the newspapers ought not to have criticized him? If so, surely he does not understand the honest newspapers of America. Publishers generally believe that the proposed increase in postal rates has been inspired largely by hostility to the newspapers. A number of Congressmen have freely said to members of the staff of the MANUFACTURERS RECORD that the newspapers were responsible for the war, and that therefore they proposed to the extent of their ability to compel the newspapers to pay as much of the war expense as they could impose upon them. It is well known that some Congressmen are anxious to crush out some of the newspapers of the country, or to suppress them so that they will not voice their hostility to their incompetence. But Senator Stone is vastly mistaken if he thinks he can bribe the newspapers of the country by fighting this proposed unjust taxation.

The newspapers know that the form of taxation proposed is wholly unjust. They are perfectly willing to bear their full share of war taxation. No newspaper asks exemption from it. They are willing to stand by the rest of the business concerns of the country in upholding the nation and in meeting to the extent of their earnings any taxation that may be equitable as compared with taxation on other properties; but if every member of the House or Senate were voting against this increased postal rate, that fact would not in the slightest change the views of any honest-minded paper in the country in denouncing the incompetence of Congress as a whole or individual members whenever the occasion justified such criticism, even if it knew that by doing so it would swing the vote in favor of this unjust taxation to its own loss. No one, however, should be surprised at any position which Senator Stone takes on any question.

PRO-GERMAN FIRMS MAY GET LEFT.

A LARGE business house, having on its books many German customers, has for months been quietly reducing its line of credit, and as rapidly as possible cutting out this German trade, believing that the time is not far distant when American people, aroused by pro-German activities, will refuse to buy anything from German merchants, and this house does not want under these conditions to be left with a big load of indebtedness by German merchants.

We wonder if other houses have been moving along similar lines.

PRICE-FIXING BY THE GOVERNMENT A SERIOUS ECONOMIC DANGER.

C RITICISM of the National Government in such a period as that through which we are passing is not justified, except in extreme emergencies. The MANUFACTURERS RECORD would far prefer to be able to give praise to everything that the Government is doing rather than to point out any shortcomings. On this account we have refrained from criticizing many of the things which are being done, because it is inevitable that in trying to do within a few months the things which we should have done during the last three years there must be more or less friction, more or less extravagance and waste and many mistakes. These things, however, can be rectified, and will, we believe, be straightened out as men in authority get a better grasp of the situation. The country is to blame for this condition, because the country persistently refused to see the danger and waited until the crisis was upon us before attempting to prepare for the great struggle which was inevitably ahead of us from the beginning of the European War.

We would, therefore, far prefer to heartily commend the Government's price-fixing campaign if we could shut our eyes to what we believe will be a serious and possibly a disastrous course upon which the country has entered unless a change is effected in time to prevent this. We do not believe it possible, except in a few special cases, for the Government to regulate all the great industries of the country without bringing about a condition which will spell disaster to the prosperity of the nation, lengthen the war by years and add to its cost hundreds of thousands of lives and billions of dollars.

In these fundamental questions bearing upon economic interests the MANUFACTURERS RECORD has, as others papers must do, voiced its highest convictions.

It regards increased output as infinitely more important than decreased prices. The nation can be destroyed by beating prices down. It cannot possibly be otherwise than helped by increasing output, even beyond the world's needs, and thus eventually securing the lower prices which are so important, while at the same time enormously increasing the output.

Referring to coal operations in the last few years in connection with the question of increased output, a thoughtful business man of the South, thoroughly familiar with coal interests, but not a coal operator, in the course of a letter to the MANUFACTURERS RECORD says:

Since the first of the year there has been an enormous increase in the cost of supplies, there has been a considerable increase in the direct cost of labor, and a very great decrease in the efficiency of labor. On the other hand, there has been a gradual disappearance of low-price contracts and the installation of high-price contracts, and there is no question that the coal industry has been exceedingly prosperous. The old-established, well-organized companies have made enormous profits. The average companies have made very large profits, and as a result of that a great many new concerns have started into business at a high cost of construction, high cost of organization, and high cost of and scarcity of labor. **It is very doubtful whether this latter class has been profitable, and yet they are of enormous value in permanently reducing the prices of coal to a proper basis.**

Without having the detailed information before me, I would say that the average fairly-well managed mines have found their cost at this time to exceed their normal by probably 40 or 50 per cent., and the average mine is not going to be hurt by a cost of \$2 a ton, particularly when many of them have contracts outstanding for a considerable portion of their output at \$3 or more.

I am not so certain, however, that \$2, particularly in view of the high cost of production and the uncertainty as to what the Government is going to do in the future, will result in that feverish activity to develop new mines in a hurry which is now necessary in order that the supply may overtake the demand. **In my mind, an enormous increase in the supply, with the ultimate permanent reduction in the selling price, is of far more importance to the country at the present time than the mere question of the price at which coal may nominally be produced.** Who has got any \$2 coal for sale? If a man tries to buy it he will find that it is all contracted for at much higher prices, but the man who might otherwise be tempted to stake his credit and his fortune in opening a coal mine because of the apparently enormous profits dangling before his eyes will be very slow to start if the Government holds down his price to \$2.

Prof. Wm. Estabrook Chancellor, head of de-

partment of economics, politics and sociology, Wooster College, in *Financial America*, discussing from the standpoint of economics the whole price-fixing scheme of the Government and showing some of its dangers and the impossibility, from his standpoint, of its working out satisfactorily and to the advantage of the country, says:

Do sane men anticipate that government can determine the value of a dollar? Until government can do this, every time it undertakes to fix prices it will set producer against consumer, seller against buyer, in envy, fear, hate. The free market gets rid of all this. We accept bargaining in liberty as finality. Men do not hate natural laws or national phenomena. The free market is natural economic weather. I would no more quarrel with the prices of a free market than I would with the breezes of the free air or with the waves of the free ocean.

That price regulation will not work, that it is a delusion like perpetual motion, that it is an ignis fatuus, a will of the wisp of politics, that it is the straw to tempt the despairing struggles of a drowning man, that it is a childish dream unfit to linger in the daylight hours of full grown men, every competent person knows. Including the price-regulators themselves, the public defenders and all their cheer-leaders.

Price regulation will end some glad, bright morning when the crowd hysteria passes, and Americans with feet on the ground recover power to move according to economic law and things as they are and of right ought to be in a civilization of the free, intelligent and just. True it is that in some particular the markets have been manipulated and prices have been unfair; but we should no more desire to change from occasional evils, usually local, and not often affecting seriously the entire nation, to the universal misery of price-regulation than would a man sick with headache and indigestion seek to change into spinal meningitis. Truth is, the general rise in the level of prices has put the world on notice to take more time for the production of necessities, while price regulation is an impish endeavor to deceive the world so that we shall not heed the notice. Herein to obey economic law is life.

KEEPING THE FIRES OF BUSINESS BURNING.

M R. ROBERT P. WILLIAMS, Recorder and Treasurer of Knoxville, in writing the MANUFACTURERS RECORD, says:

"Enclosed find advertisement on \$800,000 bonds; you will please insert one time in your valuable paper. We must keep the fires burning at home the same as on the firing line across the pond. Your paper, in my opinion, is doing splendid work in this matter."

Mr. Williams is correct. The fires beneath the boilers must be kept burning. The fires of all business interests, except those that are wholly non-essential in war times, must be driven by a forced draft in order to secure the largest facilities with which to win the war. We cannot shut off the draft and bank the fires and yet produce the things which are needed for war.

Production work in everything which tends to broaden the business life of the nation, to intensify its business activity, to increase its prosperity is a thing which must be done in this war time in order to enable the nation to finance the war and to carry on the making of the things upon which our success depends.

We must mine more coal, even if the coal operator makes more money than formerly. We must produce more iron and steel, with more regard to the extent of production than the profit that the maker may want. We must encourage the "wild-catter," as he speculatively risks his money in trying to find oil, for without his speculative tendency we should soon come to the limit of our oil output. We must encourage the building of roads more and more, because railroad transportation is falling short of the needs of the country. Automobiles and motor trucks must largely take the place, on many highways for passenger travel and freight traffic, of inadequate railroad facilities. Water-works and sewerage systems must be built in order to maintain the nation's health. We would make a vital mistake if we did not encourage these things in these war times, for lessened business activity, lessened prosperity, lessened road construction would all mean lessened ability and efficiency in the war. But non-essentials which do not add to our ability to win the war must be rigidly cut out, regardless of temporary individual losses.

ARE YOU ACTIVELY AND AGGRESSIVELY AMERICAN? IF NOT, THIS EDITORIAL TELLS WHERE YOU STAND.

THE MANUFACTURERS RECORD has a letter from a valued reader, who, writing from Detroit, says:

I hope the pamphlet, "America's Relation to the War," will receive a very wide distribution. In my judgment there is scarcely before the Government today a more important question than the one of traitors. There are many, many thousands of them, if not millions. I hope the editor will continue his vigorous attacks on them.

Why don't loyal Germans, if there are any, come out in the open and say so?

Why don't they form patriotic organizations, as the Poles for instance?

Why don't they do as the Greeks, and hold meetings pledging loyalty to America? It is because at heart they are not loyal. They think we did wrong to ship munitions to the allies before we entered the war; they think we ought not to have entered the war; they think Germany should and will defeat England and France, and at heart they are for Germany. If Germany then defeats America they will be the first to say America is getting her just deserts. I firmly believe that is their attitude.

Then again, I think it is a crying shame that German newspapers should be permitted to continue to cast their dirty slurs at America, practically make fun of the Government and her allies and plant sedition daily in the minds of their readers. It ought to be stopped. And for that matter so should American newspapers that take the same attitude. And there are some, as you know.

I met Mr. — in the lobby last night. Asked me if the Manufacturers Record wasn't going it pretty strong on the war question. I told him it was. He asked if it wasn't losing business on account of it. I replied, not to my knowledge. He said a big Chicago manufacturer was in his office the other day when a bulletin came in with a particularly warm article, and the manufacturer, although not a German, did not seem to approve of it. Said he was an advertiser in the paper, too. Am wondering who it was.

The question raised by a Western man to our correspondent as to whether the work against pro-Germans by the MANUFACTURERS RECORD was not causing it to lose advertisements has never been given consideration in this office.

If there is any man in this country who wants to be allied with the activities of Hell as represented by Germany, we do not want him as an advertiser, and the only possible reason why we would want him as a reader would be that perchance he might be converted before he ends up in front of the firing squad.

The MANUFACTURERS RECORD at the beginning of this campaign three years ago knew that it would stir the bitter hostility of some people in this country, but it deliberately decided to voice its opinion on the subject without regard to whether it pleased or displeased its readers or advertisers. To have acted on any other basis would have made it a traitor to the country and to civilization, and now that this country is in the war we expect to fight even still more vigorously than in the past to awaken our people to the realities of this war and to the necessity of suppressing pro-German activities without mercy, for those who are engaged in these pro-German activities are seeking to stab in the back with poisoned knives the soldiers of the nation who are giving their lives for civilization and liberty.

He who today is not actively and aggressively an American is at least passively a traitor.

WE PREFER OUR DESIGNATION.

PRESIDENT WILSON calls our American Army "Soldiers of Freedom." It is a good title, but we prefer the name suggested weeks ago by the MANUFACTURERS RECORD—"Soldiers of Civilization," since civilization is broader than freedom, and as civilization is broader than democracy. We are in this great world battle in order to make the world safe for civilization, which is even better than trying to make it safe for democracy; and American soldiers, who should be known as "Soldiers of Civilization," should also be known through all time to come as the "Saviors of Civilization." The two terms should be synonymous.

"WILL THIS HELP AMERICA TO WIN THE WAR?"

IN an illuminating discussion of the necessity of the nation bending every energy to the production of essentials and the elimination of non-essentials, in order that we may be able to win the war, Daniel Willard, President of the Baltimore & Ohio Railroad, who was called shortly after the beginning of the war by President Wilson to become chairman of the Advisory Commission of the Council of National Defense in connection with the transportation interests of the country, says that every American when he is thinking about undertaking any new enterprise must ask himself the question, "Will this help America to win the war?" and then he must act, if he is patriotic, according to the answer which he must give to himself. All the power in men and money of the nation will be needed, according to Mr. Willard, to do the things which are absolutely essential to our success in this war. But Mr. Willard falls short in this splendid statement in a few points. He outlines the tremendous demand for iron and steel and coal; but he made no suggestion whatsoever as to the supreme necessity of existing iron and steel plants expanding their production, nor of the co-operation on the part of the National Government by more liberal treatment than has been proposed that they may be enabled to do this.

If Mr. Willard after stating the facts, as he has so clearly done in regard to our helplessness in this war without iron and steel and coal, had urged the nation to do all in its power, through legislation and lessened restrictions, to tempt every possible dollar into the enlargement of plants or the building of new plants, he would have greatly strengthened the value of his statement.

Mr. Willard said that the annual output of locomotives in this country is about 5500, of which American railroads annually take about 4000. The situation in Russia is so acute that it has been found necessary to arrange to ship by the first of February 1000 locomotives to that country. And others must follow, while locomotives must also be shipped to England and France to the utmost extent that they can be spared. "Measure," said he, "these facts against each other. Measure the imperative needs of Russia, added to the needs of England and France, against our capacity and our own normal demands. How are we going to do it? How are we going to protect ourselves in helping Russia and France and England, by giving them nearly all of our output of locomotives when our own demands are for 4000 of the output of 5500 locomotives? There is just one way of doing it. We must get along without our normal purchases of new locomotives, despite the tremendous increased strain which the war has put upon our railroads. We must—simply must—do this. The more locomotives to Russia, the fewer men to the Western front, perhaps to death. We will send new locomotives to Russia by denying ourselves our needs. When I put to you the problem how we can achieve the denial, I carry you back to the test which every American should put to himself when planning something: 'Will this help America to win the war?'

"What I have said about locomotives and cars and coal, applies generally. You can reason it out for yourself. I want to tell you briefly something about steel."

"Steel would have been used in that separation of the grade crossing. Of course it would. It is used in everything. It is used by everyone. The civilized world cannot do without it. In times of peace it cannot do without it. In times of war, when artillery and ammunition are made and destroyed in vast quantities, when ships are built and sunk in great numbers, when railroad systems must be constructed almost overnight behind the changing battle lines—in times of war the need for steel surpasses statement. The President has placed Judge Lovett in charge of the distribution of steel, and a better appointment never was made."

"He sits before a table, with a statement of the daily production and supply of steel before him. Here are the gunmakers, the munitions people, the railroads, the construction people, the jobbers and the others who must have steel. There stand the representatives of England, France, Russia, Italy. Take their statements of what they need and add them together, and you have a total far in excess of

the total supply shown by the statement in Judge Lovett's hands. What does Judge Lovett do? He is the master of the situation—made so in the public interest. He sits at his table and he studies the demands for steel, and then he doles out the supply, so much for this, so much for that. Few get enough. They get what Judge Lovett thinks they can do with, if they exercise rigid economy."

In the light of this statement of Mr. Willard, which is directly in harmony with what the MANUFACTURERS RECORD has been proclaiming for the last two years, that the steel production of the country is not keeping pace with our necessities, it is incumbent upon the country to do its utmost to increase production, and especially in sections not dependent upon the Lake Superior ore district, which is already being taxed to the extent of its producing capacity and which is even now yielding up more ore than can be rapidly handled. The transportation facilities of the Lakes are not equal to supplying the pressing demand for ore in that district. New ore supplies must be developed in other sections, and that right rapidly, if we are to measure up to the needs of the hour and help to save ourselves and the world.

If Mr. Willard had stated this situation, which he and Judge Lovett must of course fully understand, and appealed to Congress not to hamper by undue taxation or unwise restrictions increased output of iron and steel and coal and other things, his message would have carried great weight to the whole nation.

It is interesting in this connection to note that the statement recently made in the MANUFACTURERS RECORD by President Campbell of the Youngstown Sheet & Tube Co., urging the necessity of making needed expansions in business enterprises at present, is being used by that concern as an advertisement. President Campbell said "good judgment and patriotism unite in urging Americans to keep business and industry at top speed during the war, and only in this way can we render our allies effective support in the great struggle which is to make the world safe for democracy." Notwithstanding advancing prices for construction work and for labor, his company has since the entrance of the United States into the war begun extensions which will largely increase its production, at a cost approximating \$8,000,000, or \$3,000,000 more than if these extensions had been made two years ago. Mr. Campbell added:

"It is to be hoped that similar conditions will prevail in all industries of vital importance to our country in the great and glorious task which it has set itself."

We believe that Congress should exempt from excess taxation, or else in some way make a very much lower rate of taxation, all profits used during the next two years for the extension of producing capacity. If the manufacturing interests of the country can in this way be encouraged to enlarge their productive power, vast sums will be expended in increasing facilities which will help the country to meet this world crisis; but if taxation on all profits is made as burdensomely heavy as is now proposed there will of necessity be a halting in construction activities and a lessening rather than an increase in producing capacity. It is quite possible for Congress to maim, if not completely kill, the goose which has been laying the golden eggs, and in its effort to get all of the eggs at once make impossible the securing of any eggs in the future.

ANOTHER BUSINESS BEING KILLED BY PROHIBITION.

The Knox county Jail had only 17 prisoners Monday, as compared with 100 one year ago. The city jail is almost empty.

"The bone-dry law has wonderfully decreased drunkenness, and the consequent petty crimes which usually follow a melee," say both county and city officials.

Fewer persons with bruised faces, the result of fights; fewer women complaining against abusive husbands, and fewer gamblers have been haled in the police court, or before magistrates, officials say.—Knoxville Sentinel.

Here is one more illustration of the fact that prohibition seriously interferes with the prosperity of jails and penitentiaries. Men who want full jails must be certain to keep the town full of whiskey; the two things go together, while the elimination of whiskey always reduces crime and the number of convicts.

SUPPRESS SEDITIOUS AND GERMAN LANGUAGE NEWSPAPERS.

JUDGE EMORY SPEER of Georgia has rendered a decision upholding the Postoffice Department's refusal of mailing facilities to Tom Watson's seditious paper. In this decision Judge Speer has opened the way for the Government to suppress seditious publications, which are now doing all in their power to uphold Germany and to weaken this country.

After reviewing the work of Watson's paper against the interests of this country, Judge Speer closed with the following decision:

Had the Postmaster-General longer permitted the use of the great postal system which he controls for the dissemination of such a poison, it would have been to forego the opportunity to serve his country afforded by his lofty station.

There is, moreover, an additional consideration of the weightiest character, which obliges the denial of such an injunction as is here sought. An appeal is made to an American Court of Equity to oblige the postal authorities of our country to contribute its mailing facilities for the furtherance and success of a propaganda against the nation as distinct, as it is trueulent and dangerous. Under the familiar rule in equity, such an appeal is addressed largely to the discretion of the court. It is to be determined by the conscience of the chancellor, and always with proper regard to the public welfare. This imports the country's welfare. And, a party seeking this extraordinary remedy, under a rule equally familiar, must come into court with clean hands. Can one be said to come with clean hands when the policy, methods and efforts he would maintain may cause his hands to be imbrued in the blood of the demoralized and defeated armies of his countrymen? If, by such propaganda American soldiers may be convinced that they are the victims of lawless and unconstitutional oppression, vain indeed will be the efforts to make their deeds rival the glowing traditions of their hero strain. On the contrary, the world will behold America's degradation and shame, the disintegration under fire of our line of battle, the inglorious fight of our defenders, like the recent debacle of the Russian army, brought about by methods much the same, the ultimate conquest of our country, the destruction of its institutions and the perishing of popular Government on earth.

The preliminary injunction is denied.

With this decision of a judge who has rarely been overruled, the Government should now suppress every paper teaching sedition, whether edited by a United States Senator or an open enemy of the country in the shape of a German-language paper.

CANADA'S PLAN TO SAVE VEGETABLES AND FRUITS.

IN Canada the Food Controller has issued an order forbidding the retail sale and purchase of canned goods except in lumber, mining and construction camps and dining cars, where fresh vegetables are hardly available. This movement has been made in order to shut off the consumption at present of canned vegetables, as Canada will not be able to supply more than half of the amount needed during the winter, and at the same time, by shutting off this consumption of canned goods during the summer season, people will be compelled to purchase fresh vegetables and fruits, to their own advantage as well as to the advantage of the producers, who have done their utmost to secure large crops. The Food Controller announces that he is determined that this fresh produce shall be taken in preference to that which has been put into a form which can be exported or used when fresh vegetables are not available.

It is desirable that somewhat similar action should be encouraged in this country. The enormous consumption of canned fruits and vegetables which goes on in hotels as well as in private families during the summertime should be lessened, even though hotels may find it more difficult to handle fresh vegetables in quantity than they do to handle canned goods.

The farmers of the country have done their best to produce large crops of vegetables. Not all the surplus above the amount that is being consumed can be canned, and therefore every effort should be made to save waste by the consumption during the summer months of fresh vegetables and fruits, leaving the canned goods for winter consumption and to be sent abroad to the troops.

September 6, 1917.

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THE CHEMISTS' OPPORTUNITY IN DEVELOPING A SUPPLY OF POTASH ADEQUATE TO OUR NEEDS.

FROM the beginning of the European war the MANUFACTURERS RECORD has taken the ground that there must of necessity be a vast stimulation in the mental activity of our people, and especially of the chemists, upon whose ability to solve many problems will rest the future of the country. In many directions there are evidences of what chemists are already doing in meeting the demand for potash, even though as yet the output is limited.

In the manufacture of Portland cement and from waste liquids potash is already being produced in some quantity, but, of course, not to a sufficient extent to materially affect the market. There are also great possibilities of potash production as a by-product in iron-making, and a number of concerns are giving serious consideration to this opportunity. As reported in the MANUFACTURERS RECORD last week, large operations for the extraction of potash from alunite are under way, and a North Carolina fertilizer concern expects to be able to meet its own needs from that source. Other companies have been working on similar lines for the last year or two.

And now comes the United States Geological Survey with a statement in regard to almost limitless deposits of potash awaiting a cheap method of extraction to be found in immense beds of green sand in the eastern part of the United States. In this report the Geological Survey says:

These deposits are immense beds of sand at or near the surface in New Jersey, Delaware and other States on the Atlantic coast. They cover many square miles, are at some places as much as 30 feet thick, and carry locally a maximum of seven per cent. of potash. The prospective value of these deposits at any place depends upon the quantity of green sand available and the ease with which it can be mined. Most of the deposits can be mined with a steam shovel or dredge.

Green sand usually consists of grains of glauconite, an insoluble silicate of potash, iron and silica (which may contain seven per cent or more of potash), mixed with grains of quartz and other materials. It gradually decomposes on exposure to the weather, its potash being thus slowly rendered available for assimilation by plants. It has been used in the raw condition as fertilizer for over a hundred years, as much as 100,000 tons having been mined in a single year in New Jersey. However, though its use has proved profitable at places within easy hauling distance of the deposits, the freight rates prohibit a long haul of material containing so small a proportion of potash. The chemical and engineering problem is therefore to extract and concentrate the potash.

Experiments made by chemists and others give hope that some economical process of extraction will be found, and when a cheap process has been devised there will be an immediate demand for detailed information concerning the location, nature and supply of green sand. In order to meet this expected demand the Survey has prepared this report.

According to the report the best green sands are in New Jersey, running in a series of broad belts from Sandy Hook Bay southwestward across Monmouth, Ocean, Burlington, Camden and Gloucester counties into Delaware, where they are abundant as far south as Middletown. Other less valuable deposits occur in Maryland, Virginia, North Carolina, Arkansas and Texas, and probably other Southern States may contain similar deposits. The best of this sand will carry about 6.3 pounds of potash to the cubic foot, or about 75,000 tons for each square mile of sand one foot thick, or 1,500,000 tons for each square mile of a 20-ft. bed. A bed of that thickness carrying five per cent. of potash should contain more than 1,000,000 tons of potash to the square mile and should also carry about 1,500,000 tons of iron and possibly 500,000 tons of phosphoric acid. To utilize these constituents is a problem in chemical engineering; to measure the raw material is the simpler problem in practical geology.

These figures as to the amount of potash and iron and phosphoric acid available in a bed of this sand are somewhat staggering in magnitude. Surely with such vast raw materials awaiting the right process in order to make them available the chemists of this country will find a way out of this situation to create a potash industry, in connection with existing plants and with the proposed production of potash in iron-making and from alunite, sufficient to meet our needs in the future without dependence upon Germany.

It will doubtless prove true that Germany, in its utter disregard of all human rights and in its efforts to conquer and dominate the world, will have caused

so many lines of development in this and other countries as to have forever deprived itself of many of its former markets. This should be pre-eminently true as to potash, dyestuffs and coal-tar products of all kinds. With the limitless resources of this nation in raw materials, it only remains for American genius to turn its attention to solving all of the problems connected with these industries to create vast successful operations which will be able to meet Germany's competition when the war is over, and if necessary the Government must grant an ample protection to these new industries in order that they be not destroyed by Germany through the methods which German manufacturers and the German Government in co-operation so successfully worked in the past in order to prevent the creation of rival enterprises in this and other countries.

The Geological Survey's pamphlet report on this subject closes with the following statements:

In view of the relative rapidity with which the potash becomes "available" or "soluble" when the green sand is used as a fertilizer in the ground, the question naturally arises as to whether the action of carbon dioxide, humic acid, or some of the other acids of the earth might not prove a possible solvent of the potash, for carbon dioxide could be readily obtained from limekilns in adjoining areas at little or no cost, and the product, if the process succeeded, would be in the form of potassium carbonate.

Experiments were made in dissolving the potash of the green sand in a solution of carbon dioxide. An automatic agitator was used and the tests lasted several hours. The solution contained such a small amount of potash, however, as to indicate that the process was not commercially feasible. Similar experiments, with like results, were carried on with sulphur dioxide, which could be obtained as a by-product from the smelters, and dilute hydrochloric acid also failed to give results of value.

As the subject of the processes of possible utilization of the green sands in the production of commercial potash is not within the province of this paper, no detailed study of the subject was made, and the experiments referred to were merely incidental to the analytical work, so that they may not be conclusive. The results obtained, however, do not lend hope to the successful use of such methods.

The concentration of the glauconite of the green sand by electric magnets should be entirely feasible, by employing possibly such methods as are today in use in the concentrating low-grade ferruginous zinc ores. The chapters on potash salts in Mineral Resources of the United States for 1913 to 1915 contain descriptions of methods proposed for the commercial extraction of potash from many of the minerals and rocks that contain it. The advantage of green sand over feldspars lies in its abundance and possible low first cost, exclusive of freight.

THERE COULD BE NO WAR EXCEPT FOR THE SOUTH'S SULPHUR.

NOTWITHSTANDING the fact that the two largest sulphur-producing plants in the United States, one in Louisiana and one in Texas, are being pressed to their utmost capacity, the demand for sulphur so far exceeds the supply that the Government has recently put an embargo on the shipment of sulphur to paper mills in Canada. These two plants are producing over 1,000,000 tons a year, or more than 98 per cent. of the entire output of the United States.

If the capitalists who risked their money in these enterprises had not been far seeing enough to do so, the nation would today be absolutely without any sulphur, since we can no longer depend upon Italy as we did years ago. Prior to the success of the Union Sulphur Co. of Louisiana, three or four companies had made complete financial failures in their effort to reach the sulphur and mine it at a profit, as it is covered with an overburden of several hundred feet of quicksand. The directors of the present company some years ago were about to abandon the undertaking and a meeting had been called to wind up the affairs and give up the enterprise, but Abram S. Hewett, one of the directors, urged that one more effort be made, that money be advanced to the company by the directors and stockholders, and that the Frasch system be tested. Daring to risk still more money, the company finally succeeded and has made a marvelous financial record and has given to the nation a supply of sulphur which up to a few years ago was equal to the needs of the times.

Later on, Mr. Vanderlip, president of the National City Bank of New York, the Swensons, strong bankers of Texas and New York, and other capitalists,

undertook a somewhat similar venture after several years of experimental work at diamond drilling in Texas and that company has also proved a great financial success and is now producing, we believe, in the neighborhood of 500,000 or 600,000 tons of sulphur a year, without which there would be a famine in the sulphur market.

Men who dare to risk their money in what for years have to be semi-speculative enterprises are the men who create industries which in times of emergency keep the nation from ruin.

It is an interesting fact that the whole power of the country to produce munitions, without which we would be helpless, depends absolutely upon these two sulphur plants in the South, yielding 98 per cent. of the sulphur supply of the country.

AN UNFORTUNATE STATEMENT BY A RELIGIOUS PAPER.

THE Western Recorder, a leading religious publication, in discussing the coal situation, says:

It is a fact that coal is being produced at practically the same price that it was five years ago. In the majority of mines, it cost the company \$1.15 a ton to get the coal to the tipple. For the coal, the company receives \$4 a ton at the tipple. This shows, not counting the interest on the investment and the managers' salaries, a clear profit of \$2.85. Until about two years ago, coal was sold at the tipple for \$2 per ton, instead of \$4, the present price.

It is further true that the miners are receiving the same price for mining coal that they received before the advance in prices.

It is to be regretted that any publication posing as a teacher of truth should make such erroneous statements as are given in this editorial. Coal is not being produced at practically the same price that it was five years ago. Wages have largely increased. Every piece of machinery, every gallon of oil and everything else which enters into the mining of coal has enormously increased in cost. The statement that coal is being produced at practically the same price as five years ago and that the miners are receiving the same price for mining coal that they received before the advance in prices is so untrue that one can be but surprised that a religious publication had so little regard for facts when it made such unfounded charges.

It is especially to be regretted that such a statement should appear in a leading religious publication, for, of all papers, they should be the most careful in stating the truth. This editorial is false, and it creates a false impression. It stirs up animosity where there should be none, but, more than that, intelligent men know that it is so incorrect that it causes them to have no confidence in any statement on business questions that appear in publications of this kind. It is an unfortunate fact that intelligent business men have long since ceased to read with any degree of confidence statements in many religious papers of the country which in any way touch on business questions, for they have unfortunately had to learn that editors of some religious publications are perfectly willing to make bald statements about business matters of which they have absolutely no knowledge. This, fortunately, is not true of all religious papers, but all are injured by the disposition of some to make such baseless statements as these of the Western Recorder.

As a matter of fact, coal-mining cost has increased about 30 per cent. or more in the Alabama district since January 1, 1917, while supplies and other labor items have also increased. A letter from one of the best-informed experts in the country to the MANUFACTURERS RECORD says:

The cost of mining coal has gone up in the last few years, mainly in the last year, between 40 and 50 per cent.

Entirely without regard to the question of price-fixing or of abnormally high prices of coal, such misstatements as those of the Western Recorder do great harm to the whole life of the nation by creating class hatred where none should exist.

PATRIOTIC MASS-MEETINGS IN LOUISIANA AND SOUTH CAROLINA.

GOVERNOR PLEASANT of Louisiana is wisely calling upon the people of that State to set aside September 15 as a day for holding mass-meetings in every parish in order that speakers of ability may present to these gatherings the great questions bearing on America's relation to the war. It is a lamentable fact that such meetings are needed. In many sections there is a lack of interest in this war question, and in some places downright lack of patriotism and even open treason.

German spies working under various guises have for several years been going about the land planting their seed of distrust and seeking in every way possible to create a sentiment in favor of Germany and against the Allies, and also against our taking part in this world war. These spies, and pro-Germans working with them, have done an immense amount of harm. The aggressive, patriotic people of the country have not until recently quite realized the need of activity on the other side to overcome this evil work.

The action of Governor Pleasant should be productive of much good in every part of Louisiana. It offers an opportunity for bringing to the front and pressing upon the attention of people who will not read for themselves the realities of the world war and all the horrors connected therewith and the reasons why this country of necessity is in war to save itself from destruction. These meetings should result in creating a great wave of patriotism, and from them should go forth a determination on the part of the patriotic men and women of the land that no spirit of evil, of treason, of pro-Germanism, shall be permitted to be spread abroad in their communities.

Never in all the history of mankind was a nation called upon to work with more vigor along such a line as this than is demanded of this country today. We are glad to note the move by Governor Pleasant, and we trust that it will be followed by the Governor of every other State in the Union, and that no word of treason shall be permitted at these meetings. Any man who on the platform or in private talk attacks the integrity of this country as to the war, who undertakes to belittle the possibilities of our work in the war, who decries the sending of our soldiers to Europe in order that we may keep German soldiers from landing in this country, is a traitor to the nation, to the womanhood and the babyhood of the world, and should be suppressed by the strong arm of the law.

These meetings should be meetings for the creation of patriotism, or rather for the awakening of latent patriotism, that the whole nation may be fused into a united, determined power to suppress the fearful barbarism which has overrun Belgium and parts of France, and which would overrun us if the Allies should be defeated.

Since the foregoing was written a letter has been received from Charleston, S. C., advising us that a campaign on precisely the lines advised has been undertaken in that community. The Charleston effort, which should be adopted by every community in the South, is described herewith:

If the program of the Charleston County Council of Defense is carried out, every man, woman and child in Charleston county will be informed as to the reasons why we are at war and as to the part that each person must play in this national crisis. The Council, through its Committee on Information, launched its campaign of information and education early in August and will carry it on through a large part of the fall.

Beginning in the rural districts, parties of speakers have gone from township to township, accompanied by officers of the Council. They have spoken to the country crowds that in some cases have been only 30 or 40, while in others they have run into the hundreds. At each place the officers of the Council have sought out the leading men and organized a Township Council of Defense. In going into the country, no efforts have been spared to have speakers of the highest quality, and the result has been that hundreds of people who were only lukewarm have been converted, and that these people are carrying the message of the speakers to all of their friends who did not attend the meetings.

At each meeting the program has been the same: First, the chairman of the Council made a statement of the purposes of the National, State and County Councils. The second speaker's subject was, "Why We Are at War."

After him, a speaker—always an officer in military uniform—discussed "Why Germany Must Be Defeated." The last speaker's subject was, "The Obligation of the Individual Citizen."

When the rural meetings have been completed, the Council will begin a series of similar meetings in the City of Charleston. In addition to these public meetings, there will be slides in the moving-picture theaters, and advertisements in the daily newspapers, and the Council will have the full co-operation of all the churches and all the schools. The Committee on Information intends further to buy large quantities of patriotic literature and distribute it to the public. The Council is also organizing the Four-Minute-Men Speakers in Charleston, and these will soon get busy in the motion-picture theaters. The work of information and education will be carried on among the colored people as well as among the white.

The Committee on Information is only one of the Charleston Council's eleven standing committees, all of which expect to become increasingly active. When the Committee on Information has completed the present campaign, it will take up other campaigns of education, such as the food-production propaganda. The County Council is composed of about sixty-five of the leading citizens of Charleston, each man being the head of some organization which bears directly or indirectly on the war.

O, WHAT A HOWL THERE WOULD HAVE BEEN IF SOUTHERN SENATORS HAD DONE IT!

DISPATCHES from Washington last week told how a delegation of Western Senators called upon the President in an endeavor to prevent the fixing of the price for this year's wheat at \$2 or thereabouts, and taking the view on the other hand that the Western farmer should get \$3 a bushel or very close thereto for his wheat.

The MANUFACTURERS RECORD is not taking exception to their action, but it merely calls attention to the visit of this delegation of Western Senators to

suggest what a howl there would have been if Southern Senators had called on the President to demand 30 cents a pound for cotton, which would be about on the basis of \$3 a bushel for wheat. The profit in cotton at that price would probably be relatively less than the profit in wheat at \$3. Had any members of Congress from the South called upon the President and made such a demand, every paper in the North and West next day, with perhaps a few exceptions, would have berated and denounced with scathing bitterness the demand of this section for 30-cent cotton. We would have been told without end that this was an outrage upon the world; that this country and the Allies needed cotton, and that the South must be "loyal" and "patriotic" and "unselfish," and be willing to sell its cotton at a much lower price. This section would have been unsparingly criticised by men in public life, by Congressmen, Senators, by so-called political economists, and by every soul in the North and West who without knowing one iota about the subject feels occasionally called upon to criticise the South and denounce every demand it makes for a fair and honest price for its products.

Indeed, we should probably have had a volcanic eruption from Assistant Secretary of Agriculture Vrooman, and he would in all probability have poured out upon this section the smoke and ashes with which he tried to deluge the South last spring when he said that this section would be compelled to starve unless it raised its own foodstuff, because the Government would not permit railroad cars to be used for shipping foodstuffs from the West to the South.

And yet a man so bereft of sense and reason is still retained in the United States Department of Agriculture, and roams around the country posing as an authority! One wonders sometimes how long the nation must put up with such incompetence.

But returning to the cotton question, will the newspapers of the country bear in mind that now is a good time, whether justified or not, to bitterly assail the farmers of the West and the Senators who represented them for demanding a higher price than \$2 a bushel for wheat. Why should not these farmers in the spirit of patriotism give to the nation the output of their farms in wheat, even to the point of bankruptcy? What boots it whether they live or die, financially, if the rest of the country can get wheat at a low cost? That is the spirit in which Southern cotton growers and coal men are denounced.

MILLIONS OF REPTILES BEING NURTURED IN THE NATION'S BOSOM.

IN an attempt to defend himself from just criticisms because of some of his pro-German activities, Senator Stone in an attempted defense of German-Americans declared his belief that 65 per cent. of the German voters of the country had been loyal to the republic.

This is about the hardest slap at German-Americans and their loyalty which has been given by anyone in the country. The defender of German-Americans, seeking to put the best possible light upon their activities, says that he believes that 65 per cent. of them have been loyal. That leaves 35 per cent. disloyal. We do not believe that any public man, even those who have attacked the disloyalty of German-Americans, has put the number of thoroughly disloyal men and women of German birth but of American citizenship as high as 35 per cent. Surely the decent, honest German-Americans who are loyal to this country should utter a bitter protest against Senator Stone's statement that 35 per cent. of the total German-Americans in this country are absolutely disloyal to the nation.

This statement, however, does not take into account the several million unnaturalized Germans, Austrians, Belgians and Turks living in the United States. It can scarcely be believed that any of them are loyal to this country, but, on the contrary, as far as can be learned, they are intensely enthusiastic advocates of Germany. If we count these millions of aliens living in this country as wholly pro-German in their activity, and 35 per cent. of American men and women of German birth as wholly disloyal, we have an aggregate of a good many millions of people who will be doing all in their power to defeat this country and to bring success to Germany.

Knowing that we are thus nurturing in the bosom of the nation millions of reptiles who at the first moment when warmed into life would shoot their poisoned fangs into the nation's life, how much longer will the country bear with this situation and permit these men and women, moving in every circle of business and social life, to carry on their nefarious activities? Every one of them engaged in this work is to the utmost of his or her ability shooting poisoned bullets into American soldiers, and when once the people of this country fully awaken to this situation there will be serious trouble which even the power of the nation will hardly be able to suppress, unless the Government shows more vigor in suppressing pro-German or pro-Hellite activities now. We do not want to see widespread riots in this country and destruction of German life and German property, but we know that there is a rising spirit of protest which will bring about this condition if the Government does not promptly act to suppress these pro-German vultures.

KILLING THE BABIES.

A TELEGRAM from Plymouth, Mass., quotes a letter from Brownlee L. Gaul, a former Harvard student, now an ambulance driver in France, to his father, Rev. F. J. Gaul, in which it is stated that German airmen, flying by night over a French town recently, dropped poisoned candy and caused the death of many children who ate it. The letter also says: "The Germans are continually shelling hospitals."

No one should be surprised at these statements. It is proven that Germans have heretofore been guilty of dropping poisoned candy in towns for the purpose of killing children as well as others, but even this method of trying to destroy population is not so vile and vicious as some of the methods known to American physicians that have been employed by the Germans.

No one need be surprised at any depravity and barbarism to which the Germans may descend. They have demonstrated that in these respects the unspeakable Turks, whose history of barbarism through the centuries had marked them as having led the world in that respect, are now far outclassed by Germany. We may as well recognize the situation and face the facts, for we cannot ignore these conditions.

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"UNLESS the German spy system and the German propaganda which is allowed to circulate in these United States in their own language is suppressed, how in the name of the Almighty are our workings to be kept secret! The American people as a whole do not seem to realize that we are at war, or if they realize it do not care. The word WAR, WAR, should be placed before them in such a manner that when they open a book, sit at their desks, walk on the streets, sit at their dinner tables, or any where they go, this word will come before them, it should be even stamped on their hats and clothing, and probably in this manner they may wake up to the fact that we are at war and that this war is for the freedom of democracy."

This extract from a letter from Lakeland, Fla., states the case exactly. It is in line with what the MANUFACTURERS RECORD has been seeking to impress upon this country; and a similar view is expressed by the Washington Post, which makes some statements which should help to arouse our nation. It says:

As for alien enemies, all that the United States Government needs to do is to study the Mare Island explosion. This occurred in a Government reservation, supposedly under strict guard. In a manner not yet discovered, alien enemies or American traitors gained entrance and placed explosives so that powder magazine was blown up.

Yet alien enemies are permitted to violate the President's proclamation ordering them kept away from navy yards, arsenals and other Government property. Licenses are given to alien enemies to remain within the prescribed areas. The Department of Justice seems to be seized with a morbid fear that influential Germans may be made angry if the Government dares to make itself safe against plotters and bomb-throwers.

Keenly intelligent enemies are permitted to remain in the District of Columbia, where they can learn many important Government plans and military secrets. Why is this? Is the Department of Justice thinking more of the German vote than the German bomb? Why are the official representatives of Bulgaria permitted to come and go freely through the United States, gathering any information that may be desired by their masters in Berlin? Does the Department of Justice repose full confidence in the good faith and forbearance of the enemy? If so, the American people will no longer have faith in the Department of Justice.

Must Americans be burned or blown to atoms in some horrible railroad wreck or factory explosion before the authorities awake to the fact that the enemy must be watched? What better warning is needed than the Mare Island explosion?

The people do not care to have their safety depend upon the generosity of the enemy. They would rather see some proof that their own protectors were on the job.

These are all in keeping with "A Mother's Appeal to President Wilson" published in the MANUFACTURERS RECORD last week, in which the President is called upon to suppress with an iron hand the pro-German activities which are endangering the lives of American soldiers.

How long must we wait before Washington will take full cognizance of this situation and suppress these activities in the interest of our life as a nation, and of the lives of the millions of soldiers who are being called to the colors?

WE WANT THESE FOR DISTRIBUTION AMONG OUR EMPLOYEES."

THIS statement was contained in a letter from Mr. F. A. Redmond, agent for the Aragon Mills, Aragon, Ga., who has ordered 50 copies of the pamphlet entitled "America's Relation to the World War—Shall Our Nation Live or Perish?" We believe that Mr. Redmond's action in distributing these pamphlets to his employees should be followed by every patriotic business concern in the United States.

There is an aggressive, unceasing propaganda under way in the interest of Germany. It is distributing pamphlets everywhere. It is attacking public credit. It is seeking to destroy confidence in the nation. It is viciously and vigorously anti-American in its activities. On the other hand, the patriotic people of this country have not yet fully waked up to the necessity of working with equal

vigor on the other side, and yet the life of our nation is at stake.

If our readers can find anything better than the pamphlet "America's Relation to the World War—Shall Our Nation Live or Perish?" to distribute in order to counteract this pro-German influence, by all manner of means let them get the best that can be had. The writer of these editorials has no personal pride of authorship in them. He has simply tried to voice what he knows to be true, and where others can prepare matter better suited for educating the public, we would urge our readers to get the best, but there must be vigorous work. The printed message must be carried into every home. It is incumbent upon every business man—indeed, upon every patriotic man, however small may be his means, to do his share toward educating the public regarding the campaigning in the interest of Germany now going on in this country.

Mr. Redmond's plan to distribute literature of this kind to his employees is a good one. Are others doing their part in this way and thus seeking to counteract the evil influence which is spreading the vilest propaganda all over the country against the nation's welfare? Have you read "America's Relation to the War?" If not, do so, and if you agree with its views, distribute copies of it broadcast where they will do the most good.

NOW HUSTLING TO BUILD SHIPS ON A SCALE WORTHY OF THE NATION.

IN furtherance of the Government's comprehensive shipbuilding plan, the Emergency Fleet Corporation has let contracts for the construction of three Government-owned shipyards for building fabricated steel merchant vessels. The yards will cost \$35,000,000, and the Government has been given an option to purchase the lands on which they are located. The companies to which the contracts were let are the Submarine Boat Corporation, plant to be at Newark, N. J.; American International Corporation, plant to be at Hog Island, Pa., and the Merchant Shipbuilding Co., plant to be at Chester, Pennsylvania.

Contracts have been let to these companies by the United States Shipping Board for some 268 standardized fabricated steel ships. The Submarine Corporation will lay ways for building 28 ships simultaneously, and will have facilities to turn out one 5000-ton ship every two days after the first vessel is completed. The American International Corporation will build 200 ships, and the Merchant Shipbuilding Co. 40 ships. All of these shipyards will be well equipped for rapid construction. The plan as worked out calls for the utilization in the building of structural-steel ships facilities that have been heretofore furnishing fabricated steel for bridge building, structural-steel building, water towers and other construction work where steel was used.

By the adoption of the fabricated plan it is expected that steel ships may be turned out more rapidly than was ever dreamed of in the shipbuilding world. The parts will be assembled in the Government yards.

The shipbuilding program of the new managers of the United States Shipping Board calls for an appropriation of \$915,000,000 in addition to the total of \$800,000,000 which has previously been appropriated, making \$1,715,000,000 in all. This sum will take care of all the ships which have previously been contracted for, for such ships as the Government has arranged to commandeer, for the construction of the Government-owned shipyards and for the construction of a much larger number of steel ships than were covered by previous plans.

Details of plans have not been laid before Congress, and are only to be furnished in confidence when proper occasion arises. It can readily be seen, however, that the days of halting and indecision of the Shipping Board have passed, and henceforth there should be a gratifying degree of effective activity in this most important branch of war preparation.

NEW RAILROAD CONSTRUCTION THAT IS JUSTIFIED.

THE Santa Fe System is building three railroads, construction of which is fully warranted by even the strictest observation of the junctions issued to all lines to avoid in time of war all work that would not contribute toward the winning of the great conflict. One of these roads is the Osage County & Santa Fe Railway, from Owen to Fairfax, Okla., 62 miles, which will not only open for development a region promising the production of large quantities of oil and gas, but will save 40 miles on a main line; and the others are the North Texas & Santa Fe Railway, from Shattuck, Okla., to a point in Hansford county, Texas, in the Panhandle, 82 miles, and the Barton County & Santa Fe Railway, from Holyrood, Kan., 32 miles westward, both of which will open to greater development large tracts of agricultural lands.

Although there need be no excuse for undertaking this construction, considering the important bearing it will have with relation to the war by supplying large quantities of food, oil and gasoline for the use of the armies, President Ripley says that in explanation of the construction of these branches at this particular time it should be stated that all of them were not only projected before the declaration of war, but promises were made to certain interests along the lines in consideration of donations of rights of way, from which promises the company could not honorably recede, even if it seemed desirable. But the directors consider the construction desirable, even under present conditions.

This judgment is true. Provision of transportation facilities which will result in larger supplies for the fighting forces of the United States and its Allies is ample justification for the railroad construction thus planned. The building of such a line as the Midland & Northwestern, now rapidly approaching completion from Midland, Tex., northwest to Seminole, in that State, 65 miles, will also make tributary to the requirements of the nation a large corn-growing section, which also produces many hogs, besides diversified vegetable crops. Nearly 50 miles of this latter road are already completed, and trains will soon be running. It will be tributary to the Texas & Pacific Railway.

This sort of railroad construction justifies itself, and the South needs more of it.

ARE WE ENDANGERED BY ALIEN CHEMISTS?

THE Washington correspondent of the New York Tribune, referring to the discovery that a large proportion of the ammunition furnished General Pershing's troops is defective, says:

The inadequate official statement makes it clear that the defectiveness of the ammunition was of a chemical nature. This is bound to call attention to the fact that the chemical industry of the country is still, to a very large extent, in the hands of enemy aliens.

Repeatedly the Government has been urged to become aware of this condition, as well as of the fact that enemy alien activities in every direction are absolutely unrestricted, but every department touched with responsibility in the matter has steadily refused to take action.

It is notorious, furthermore, that enemy aliens continue to be employed by the United States Government and in private industrial plants where processes of the utmost importance and delicacy are carried on for the Government. In that matter likewise strong, almost impassioned representations have been made in vain to the Washington departments.

The suggestion of the Tribune correspondent that alien enemies are still too largely employed by the Government and in many important industries is true. The MANUFACTURERS RECORD recently asked the question if it were true, as reported, that alien chemists still hold important positions in the United States Department of Agriculture, and whether they are in a position, as reported by responsible people, to seriously injure the country through their connection with the Pure Food operations of the department. To this there has been no reply, so far as we can learn.

"WHAT FIGHT YE FOR?"—A CATHOLIC PRIEST'S WAR MESSAGE TO MASSACHUSETTS SOLDIERS.

THE Right Rev. J. E. Cassidy, V. S., in an address to the Massachusetts Guardsmen in St. Mary's Cathedral, Fall River, Mass., gave a ringing statement as to why America is in the war, and some of them might well be read alongside of the Pope's peace proposals in which no difference was drawn between the armies which are fighting for civilization and the armies fighting the unholy war of Germany. In the course of his address, Father Cassidy said:

When men ask you, "What fight ye for?" tell them, in tones that shall wake up the dead of '76; 'I fight for liberty, for freedom's sake, for righteousness, for all my country's flag has ever represented. I fight for peace, that justice may prevail, that rightfulness and inhumanity may not possess the earth.'

And here, if you will allow me time, I would give answer to those who would seemingly discredit your sacrifice by telling you that this is an unpopular war.

What war was ever popular in the sense that they would have it? Was the War for Independence popular? Was the war for the preservation of the Union popular? Was the Spanish War popular? Popularity is no measure of righteousness. Fighting with and killing each other is popular only with savages, and brave men do not anticipate with joy the slaughter of their brethren. Someone has truly said that war is hell, and hell is hardly popular with anyone.

We abhor war, but we thank God that we have not yet arrived at that decadent and degenerate condition wherein we would suffer anything rather than fight. God forbid that we should ever consider peace more honorable or more desirable than righteousness! God forbid that we should purchase peace with dishonor! God make us ever abhor war, but God keep us from ever becoming too cowardly to fight!

Had Germany by its own overt acts, repeated again and again, not made it impossible for us to keep peace with honor, had she respected our rights, had she not murdered our citizens, she might have beaten England to her knees and we would not have interfered. We did not go to war to save England—we went to war to save ourselves, to save our sovereign rights, to save all and everything that a nation in honor prizes. You men of all births, for there are men of many bloods and births bearing a grievance against England, in your blind desire for retribution, you forget that in this war all must stand or fall together. If England stands we stand; if England falls, we fall; victory and honor or defeat and dishonor shall come upon all alike.

And God forbid that there should be any so base and low and blinded as to strike at the heart of England through the soul of their own country! God forbid that there should be any who would rejoice at the losses of any of the Allies when they know that such losses mean only greater losses and multiplied deaths among your soldier sons. Let this insanity pass forever from these States.

One word more and I have done. As you leave this holy place, ne'er perchance to e'er return, two visions, two memories, I would stamp indelibly on your soldier souls. The first is Christ upon the cross, his arms outstretched toward you in infinite love, bruised, bleeding, crucified, triumphing over sin and death to make you free. He is your God. Be you faithful to him unto death.

The other is that most heroic figure of all these terrible times, Cardinal Mercier—wan of countenance and worn of body, yet with spirit unbroken and undimmed, he stands amidst the ruins of his devastated and desolated country, his sons murdered, his daughters violated, his children carried into captivity, his homes laid waste, every lash that falls upon his conquered people cutting thrice deep into his very soul. Yet undaunted, unterrified, unconquered, he faces his oppressors and says to them:

"Draw your plans, set up your batteries, arrange your movements, purpose as you will, but God will ultimately dispose. By conviction, both natural and supernatural, of our ultimate victory is more firmly rooted in my soul than ever. We plighted our word that we should be neutral, and to maintain our word of honor we have sacrificed our goods, our homes, our sons, our husbands, and after three years of coercion we are still as proud of our fidelity as when we first declared, 'Thou shalt not pass.'"

And this heroic figure, the very personification of patriotism and love of country, I hold out to you as your model and your ideal.

PHILANTHROPY FOR PROFIT.

HENRY FORD always manages to keep his name before the public. He is a shrewd adept in getting free advertising from the newspapers. With a great deal of hurrah the daily papers of the country are giving him credit for an alleged munificent gift of \$500,000 to the American Red Cross, which turns out, however, to be merely a credit for \$500,000 worth of Ford automobiles and parts which probably cost Mr. Ford not to exceed one-quarter

or one-third of the amount that he is credited as having given. Even if the actual cost of the contribution had been \$1,000,000, he would be getting more than its value in advertising out of the scheme. This is a cheap John kind of philanthropy for profit. Suppose Mr. Ford had given the Red Cross half a million cash and then let that organization buy its own automobiles when and where it pleased!

BETTER COMPRESSION OF COTTON MUST BE EFFECTED TO SAVE SHIPS AND CARS.

SHORTAGE of cars and scarcity of ships make it imperative that something be done toward compressing cotton bales, as turned out by gins and compresses with antiquated equipment, to a greater density in order that each bale can be made to occupy but a minimum space in these carriers. Writing on the question of cotton tonnage the Textile World Journal says:

"If the plan of economizing tonnage by increasing the density of the American cotton bale could be put into operation within a few months, based upon annual exports of only 6,000,000 bales, it would result in a saving of not far from a million dead-weight tons annually. This would be the case even if the average density of American bales was increased to only 35 pounds. It would render available for other use from 15 to 20 steamers of 5000 dead-weight tons each, assuming that these steamers would be able to make only 12 round trips a year between American and European ports.

"At \$200 a dead-weight ton, these steamers would be worth a sum far in excess of that needed to re-equip sufficient compresses at important exporting ports in the South to handle cotton destined for foreign countries.

"The re-equipment of a sufficient number of compresses at important shipping points involves far less financial and mechanical difficulty than the plan of the Shipping Board for the building of an amount of new shipping equal to that which would be economized by increasing the density of American cotton bales.

"It is also estimated that the plan would save the use of at least 15,000 freight cars, assuming that about 45,000 cars of 34 to 36 feet are required annually to move the domestic crop."

Any improvement in methods of conducting business that will add to our rolling stock approximately 15,000 cars and increase by 15 to 20 5000-ton ships the world's supply of shipping commands attention. The advantage of the closely compressed bale, with an average density of 35 pounds per cubic foot, in saving warehouse and what is more vital, shipping space, over the 22-pound density of many American bales at present is unquestionable. Especially is it important that cotton should be better packed at this time when the transportation facilities of the world are overtaxed and will be for a long time after the war. Other industries are perfecting their shipping methods with the idea of getting the most freight in the least space and of loading cars even beyond stipulated capacity. The Clinchfield Portland Cement Corporation of Kingsport, Tenn., for instance, through judicious management in arranging shipments and loading its cars, was able to save space to the equivalent of 36 cars in one month. At this rate this one concern would be the means of releasing for other service over 400 cars in a single year. It is up to the cotton interests and the railroads who in many cases control cotton compresses operating on their lines to get busy. The railroads owning or controlling compresses should lead the way immediately and compel dense compressing and good covering.

This question of increasing the density of American cotton bales is not now new and therefore would not be an experiment. The American cotton bales average a lower density than those of any other country, and it is a disgraceful fact that they are notoriously poorly packed, entailing in the aggregate large losses to shippers and spinners because of the damaged condition of the exposed fiber. It is pointed out that with the higher compressing of the bales the cotton is better protected and consequently will not be subjected to penalties from damage due to poor wrapping and loose compression.

In connection with the closer packing of cotton in order to relieve shipping space as much as possible, this announcement has been made by Chairman Fairfax Harrison of the Railroads' War Board:

With the movement of the cotton crop scheduled to begin

this fall at a time when a combination of Government and commercial business will be bringing tremendous pressure to bear upon the railroads, the Commission on Car Service of the Railroads' War Board has issued instructions prohibiting the shipping of cotton in quantities less than 5 bales a car, and requiring as many more to be loaded as the size of the car furnished will permit.

A WISE MISSISSIPPI BUSINESS HOUSE.

HOLMES OF MISSISSIPPI," a manufacturing stationer of Greenville, Miss., in a letter to the MANUFACTURERS RECORD, referring to recent editorials published on the war situation and "America's Relation to the World War," asked us to send 1000 cards, calling attention to the MANUFACTURERS RECORD and to the pamphlet entitled "America's Relation to the World War—Shall Our Nation Live or Perish?" stating that they will mail these cards out as inserts with correspondence to customers throughout Mississippi and Western Alabama, such as bankers, lawyers, manufacturers and wholesale dealers. They write:

We are interested in having our customers and friends read these editorials.

This is an illustration of the spirit with which subscribers to the MANUFACTURERS RECORD are showing an eagerness to co-operate in widening its circulation among their friends in the South and elsewhere.

We commend the spirit of "Holmes of Mississippi" to the attention of every subscriber, and we feel justified in asking for this spirit of co-operation not only in the interest of the South, but in the interest of the nation, for wherever the MANUFACTURERS RECORD goes it awakens a wider and deeper spirit of patriotism, and at the same time broadens the world's interest in the South and its limitless potentialities.

CO-OPERATION WHICH IS HELPFUL.

M R. T. J. SHELTON, the Traffic Manager of the Arkansas & Midland Railway of Monroe, La., is one of the heartiest co-operators with its work which the MANUFACTURERS RECORD is privileged to number among its readers. Nothing of interest in that territory develops, no publication in the newspapers on matters of special concern to the public, through editorial or news columns, but what Mr. Shelton sends a clipping to us. Indeed, he carries this information so far that when he travels to the West he takes the trouble to cut out from Western papers anything which he sees that would likely be of interest and forwards it. Co-operation of this kind is invaluable. It is not always possible for us to personally express our appreciation of this spirit of co-operation which prompts Mr. Shelton and many others to send us matters of interest. Nevertheless, we trust that all who do so will understand that their work is fully appreciated.

JOHNNY'S VIEW OF THE MATTER.

TEACHER—Johnny, where do the worst people in the world live?

Johnny—In this country, ma'am.

Teacher—No, Johnny, you are wrong. The worst people ever known live in Germany. Don't you think so?

Johnny—No, ma'am. I don't think there is anybody in Germany as low down and mean and bad as people living in this country who take up for Germany. I think they are rotten and ought to be shot.

A BOSTON VIEW.

LET the reptile press and the hyphenated seditionist have their say while the saying is good. The first headline that tells of American casualties abroad will put a muzzle on them so tight that, please God, it won't be pried off in a thousand years.—Boston Transcript.

And we won't have long to wait.

The Nitrate Supply Solved for Explosives and Fertilizers

WONDERFUL ACHIEVEMENT OF CHEMISTS AND WAR DEPARTMENT OFFICIALS.

[Dr. Charles H. Herty, former president of the American Chemical Society and now editor of the *Journal of Industrial and Engineering Chemistry*, published by the society, writes the Manufacturers Record:

"I am sure you will rejoice with me that through the genius of American chemists the problem of nitrate supply has been solved in what I believe to be the most advanced and best way known to the world at the present day. Knowing your intense patriotism, I am confident that you will also rejoice in the fact that through this method this country will receive supplies of fixed nitrogen far more quickly than possibly under the methods which would require time in the development of water power. Both agriculture and munitions need these supplies as quickly as possible, and I believe we have found the best, quickest and cheapest way the world has known to date."

Discussing this matter, the September issue of the *Journal of Industrial and Engineering Chemistry* says:

"A great advantage of the processes adopted lies in the fact that a large plant can be built near the fertilizer consumption center, thus minimizing transportation charges in the distribution of the output. At the same time numerous small plants can be erected if desired in any part of the country in connection with plants now manufacturing or contemplating the manufacture of explosives."

These revolutionizing statements made by Dr. Herty and those associated with him can, we believe, be accepted by the country as solving one of the greatest problems which has faced the nation. The men who have given their time to this work, those in private life as well as in Government service, are men of such pre-eminent ability that their statements can be safely accepted by the nation as proving that this long struggle to solve the nitrate problem for explosives and for fertilizers has been solved. Well may the nation rejoice.

This achievement of American chemists fulfills the predictions of the Manufacturers Record made at the beginning of the war that in this war would be found the greatest opportunity ever given to the chemists of America to demonstrate their abilities to meet every situation which might develop. As these chemists have been solving the potash problem, as they have now, as we believe, solved the nitrate problem, soon we shall expect to see them solve the gasoline problem and many of the other great problems which have confronted us.

The genius of America, stirred by every impulse of patriotism, of love of scientific investigation and by the needs of the hour, will rise to the occasion and work out in this country marvels far greater than the chemical world has heretofore achieved.

We are publishing herewith by permission of Dr. Herty from an advanced copy of the *Journal of Industrial and Engineering Chemistry* the full story of this great achievement made in nitrate production.—Editor Manufacturers Record.]

A STATEMENT OF THE ACTION TAKEN AND CONTEMPLATED LOOKING TO THE FIXATION OF NITROGEN.*

Pursuant to Section 124, "Nitrate Supply," of the Act of Congress approved June 3, 1916, generally known as "The National Defense Act."

DIVISION T. ORDNANCE OFFICE, WAR DEPT.

August 21, 1917

[From advanced reports prepared by officials of the United States War Department for *Journal of Industrial and Engineering Chemistry*, the official organ of the American Chemical Society.]

The National Defense Act, in its Section 124, provided for a supply of nitrogenous materials by authorizing and empowering the President to make or cause to be made such investigation as, in his judgment, might be necessary to determine the best, cheapest and most available means for the production of nitrates and other products for munitions of war and useful in the manufacture of fertilizers and other useful products—this by water-power or any other power as might be best and cheapest—to designate for the exclusive use of the United States such water-power sites as in his opinion might be necessary to construct and operate dams, etc., or other means than water-power as in his judgment might be best and cheapest for the generation of power and for the production of nitrates as above; also to procure by condemnation or otherwise any lands, rights of way, materials, minerals and processes, patented or otherwise. It was provided by this Act that "the products of such plants shall be used by the President for military and naval purposes to the extent that he may deem necessary, and any surplus which he shall determine is not required shall be sold and disposed of by him under such regulations as he may prescribe."

The primary step required under these provisions of law was, therefore, an investigation to determine the best, cheapest and most available means for the production of the desired nitrogenous materials, or "nitrates."

With this purpose in view, the president of the National Academy of Sciences, in co-operation with the American Chemical Society, and at the request of the

Secretary of War, appointed a committee consisting of the following scientists and engineers:

Arthur A. Noyes, chairman; Leo H. Baekeland, Gano Dunn, Charles H. Herty, Warren K. Lewis, Michael I. Pupin, Theodore W. Richards, Elihu Thompson and Willis R. Whitney.

In addition to this committee's investigations, special agents were appointed to acquire all possible further information. These agents had access to some quite unusual sources of information, and collected data, including detailed records of the costs of various processes employed at home and abroad, which have been most instructive, but which—on account of the sources from which they were obtained and the conditions under which they were given—cannot be made public.

One of these agents was Mr. Eysten Berg, who visited Europe and submitted a report. Another of these agents was Dr. Charles L. Parsons, chief chemist of the Bureau of Mines, Interior Department, who, in the course of his investigations, visited the noted plants of Italy, France, England, Norway and Sweden during the fall of 1916, and was able to give in his reports a most valuable summary and comparison of recent progress and conditions in the nitrogen-fixation industry at home and abroad, elaborated by extensive statistics of a confidential nature.

In his reports Dr. Parsons laid special emphasis upon the rapid development in the United States of processes for the direct synthesis of ammonia from nitrogen and hydrogen, for its synthesis through the formation of cyanides as an intermediate product, and for the oxidation of ammonia to nitric acid. He called attention to the process, developed by the General Chemical Co., for the synthesis of ammonia by the direct combination of nitrogen and hydrogen at lower pressures than those previously deemed necessary and contemplated by the Haber patents, and to the facts that this process had been in successful use on a large experimental scale, and that, indeed, one unit thus in use was larger than those supposed to be in use in Germany. He showed that this American company had also developed and brought to a commercial basis a method of producing the mixture of nitrogen and hydrogen required for the synthesis of ammonia at a cost lower than any thereto-

fore attained in this country or probably even in Germany, and that this company had progressed so far that it had already made plans for a commercial plant using this process. Dr. Parsons also obtained from the General Chemical Co. a tentative proposal of an agreement whereby that company would grant to the Government of the United States the use of its processes and designs for apparatus for the synthesis of ammonia and for the oxidation of ammonia to nitric acid, upon the following very liberal terms—without compensation of any kind for products to be used exclusively for munitions of war, and with a royalty upon products to be used for fertilizers.

Dr. Parsons' reports also contained a summary of recent developments in the cyanide process and a confidential statement from the Nitrogen Products Co. of their estimated costs by that process, together with an offer of unrestricted use of their patents upon such processes, without any compensation for use in the manufacture of munitions of war, and subject to a royalty of \$5 per ton of fixed nitrogen for use of their processes for the production of fertilizer.

He was also able to report that under a co-operative arrangement between the Bureau of Mines and the Semet-Solvay Company a small plant for the oxidation of ammonia to nitric acid had been constructed, and was progressing successfully; also that an experimental plant for the same purpose was being operated by the General Chemical Co. and had developed some new features, thus showing that satisfactory progress was being made in this country toward the solution of the difficulties involved in the construction and operation of such a plant upon a large scale.

Finally, Dr. Parsons stated his belief that the processes using large quantities of power would be in this country displaced by these newer processes which require comparatively little power, and he recommended that the Government build a moderate-sized plant for production of ammonia by synthesis, and undertake active experimentation with the cyanide process.

With the object of securing an opinion, based upon a comprehensive view of all the facts collected by the several agencies, the Secretary of War appointed the following "Committee on Nitrate Supply":

Brig.-Gen. William Crozier, Chief of Ordnance, U. S. Army, War Department.

Rear Admiral Ralph Earle, Chief of Bureau of Ordnance, Navy Department.

Brig.-Gen. Wm. M. Black, Chief of Engineers, U. S. Army, War Department.

Mr. F. W. Brown, Bureau of Soils, Department of Agriculture.

Dr. Leo H. Baekeland, Yonkers, N. Y.

Mr. Gano Dunn, 43 Exchange Place, New York.

Dr. Charles H. Herty, 35 E. 41st St., New York.

Dr. William F. Hillebrand, Bureau of Standards, Department of Commerce.

Dr. Arthur A. Noyes, Institute of Technology, Boston, Mass.

Dr. Charles L. Parsons, Bureau of Mines, Interior Department.

Dr. Willis R. Whitney, Schenectady, N. Y.

This committee gave careful consideration to all the information available, and duly weighed the several purposes stated by the language of the Act, recommending the following action:

I.—That the Government negotiate with the General Chemical Co. for the right to use its synthetic ammonia processes.

II.—That, contingent upon satisfactory result of such negotiations, there be set aside from the \$20,000,000 appropriated such sum, estimated as about \$3,000,000, as should be necessary to build a plant to produce by that process about 60,000 pounds of ammonia per 24-hour day; location, Southwest Virginia preferably.

III.—That, out of the same appropriation, \$600,000, or as much more as needed, be set aside for building a plant for producing by oxidation of ammonia about the equivalent of 24,000 pounds of 100 per cent. nitric acid per 24-hour day.

IV.—That the War Department proceed at the earliest practical date with the construction of the oxidation plant, and, contingent upon satisfactory arrangements with the General Chemical Co., with the construction of the synthetic ammonia plant also.

V.—That the Government negotiate with the Nitrogen Products Co. with the view to a contract for the right to use that company's patents and proceed with experimentation looking toward the industrial development of the Bucher process for production of ammonia through cyanide; and that, contingent upon satisfactory arrangements

ment as above, a sum not over \$200,000 be allotted out of the nitrate supply appropriation.

VI.—That out of the \$20,000,000 nitrate supply appropriation \$100,000 be allotted for active investigation of processes for the industrial production of nitrogen compounds useful in the manufacture of explosives or fertilizers—this under supervision of the War Department.

VII.—That in order to increase the production of ammonia and toluol the Government promote the installation of by-product coke ovens by directing priority in production and transportation of materials and parts.

VIII.—That the decision as to more extensive installation of nitrogen fixation processes and water-power development in connection with them be postponed until the plants above recommended are in operation or until further need arises.

IX.—That while the preceding recommendations include all the measures that can now judiciously be taken for the fixation of ammonia, it is the opinion of the committee that the immediate accumulation and the permanent maintenance of an ample reserve not less than 500,000 tons of Chile saltpeter is the measure most urgently necessary.

The foregoing report having met with general approval, the Secretary of War has directed the Chief of Ordnance of the Army to proceed to carry out the first six of the recommendations of the Nitrate Supply Committee and has announced that for the present the consideration of development of large water-power installations which had been begun by the Interdepartmental Board (Secretaries Baker, Lane and Houston) appointed by the President would be suspended.

The outstanding feature of this program for action is the construction of the synthetic ammonia plant using the General Chemical Co.'s process which was largely developed by their engineer, Mr. Frederick deJahn. As has been indicated, this process has already had trial upon a sufficient scale to demonstrate its practicability and to indicate as most probable its ability to produce ammonia at a very favorable price. In fact, in the search of the Nitrate Supply Committee for the best, cheapest and most available means for the production of nitrates and other products that would be of use in the manufacture of munitions and in the manufacture of fertilizers, this process appeared to give more promise of affording relief from dependence upon foreign nitrates for the defense of the country and more promise of a reduction in the cost of the nitrogenous constituent of fertilizer than others. Furthermore, this process is one which can be put into operation in a much less time than would be required to develop such a large water-power as would be needed for other prominent processes available. This process gives as its primary product ammonia which may be used directly as a constituent of fertilizer or which can be converted into ammonium sulphate or ammonium phosphate in the same manner as ammonia from any other source may be so converted. Processes for such conversion are known and appear to require no special development under this particular act. The cost of ammonia is expected to be quite low by this process, and will not be increased when the ammonia is used for munitions manufacture by any payments whatever for the rights to the processes, a satisfactory agreement to this effect having been made with the General Chemical Co. That same agreement provides that in so far as the General Chemical Co.'s processes shall be used in the manufacture of products for fertilizers a royalty of \$5 per ton of 2000 pounds of fixed nitrogen in any form shall be paid. This extremely liberal arrangement will add but a very small amount to the cost of producing the nitrogenous portion of the fertilizer, amounting to a charge of something less than 25 cents per ton of the usual mixed fertilizer. From the tentative offer of the Nitrogen Products Co. it is expected that there will be formally ratified a like liberal agreement for the use by the Government of that company's processes. There thus appears at this time to be no necessity for the President to exercise the rights granted by the Act for the acquisition of necessary processes by condemnation, all that it has been considered necessary to use having been freely granted upon liberal terms.

The Ordnance Department of the Army is proceeding as energetically as possible with the work entrusted to it, has made arrangements for taking over orders at cost which the General Chemical Co. had placed for apparatus for a considerable size plant for their own use, and thus gains considerable headway upon much of the

apparatus, as well as favorable prices; the prominent engineering and construction firm, the J. G. White Engineering Corporation, has been engaged for the remaining engineering work and the actual construction; the plans for apparatus are essentially complete, and designs for all of the buildings are very nearly completed as a result of work done by the engineers of the General Chemical Co. There is thus at the present time every reason to expect that notwithstanding the extreme difficulty and expense involved in any large construction work at this time, the plant will be not unduly delayed.

The construction of the oxidation plant is a less extensive work, and its commencement is being postponed for a short time in order to reap the full advantage of the important experimental work being carried on by the General Chemical Co., the Semet-Solvay Company and the Bureau of Mines.

SUGAR-BEET INDUSTRY FOR TEXAS.

Western Interests Propose Inauguration of Beet Growing and Erection of Factories.

Lubbock, Tex., September 1—[Special.]—Prospects are said to be favorable for the construction of a beet-sugar factory to cost about \$1,000,000 by the Idaho Sugar Co., which has its headquarters at Salt Lake City. The site of the proposed plant will be at some point in the shallow-water belt of West Texas, either at Plainview or Lubbock, it is stated.

C. W. Nibley, general manager of the company, accompanied by several high officials of the Atchison, Topeka & Santa Fe Railroad, recently made a personal inspection and investigation of the sugar beet growing lands of this part of the State, where experiments in growing the beets have been conducted with marked success during the past two or three years. On their recent trip this party was also accompanied by P. W. Madson, an expert beet grower of Provo, Utah. He familiarized himself with the character of the soil and the irrigation possibilities of the shallow-water belt. He found that several hundred wells, ranging in depth from 40 to 100 feet, upon which centrifugal pumps are installed, are giving an abundant supply of water for irrigation purposes around Plainview, Lubbock and in other localities. Some of these wells furnish a sufficient supply of water to irrigate more than 160 acres each. Chemists of the Idaho Sugar Co. have made a series of tests of the sugar beets grown around Plainview, and they show that their saccharine content is above the average.

While Mr. Nibley and his party were at Plainview they met with representative business men and a formal proposition was offered by Mr. Nibley that if as much as 7000 acres of beets could be guaranteed to be grown each year for five years, this company will erect and operate at that place a factory to cost more than \$1,000,000. In the event that this guarantee is not accomplished by the farmers around Plainview, the movement to secure the proposed sugar factory for Lubbock will be pushed.

It is stated, however, in this connection that there is a possibility that the company may build two factories in this part of the State, in which event it is believed that one of them will be located here. It is stated that should the farmers in the Plainview section not be able to plant the entire 7000 acres for next year, the company will buy all the beets produced during that year and ship them to its nearest factory. This company owns sugar factories in a number of Western States, including Utah, Idaho, Colorado and Washington.

The Holly Sugar Co. of Holly, Col., which operates numerous beet-sugar factories in Colorado, plans to build another one of these plants to cost more than \$1,000,000 at a point in the upper valley of the Rio Grande above El Paso at or in the vicinity of Las Cruces, N. M. This company has completed its preliminary plans for the building of the proposed factory, and there are being grown this year a large acreage of sugar beets in the upper valley, which will be purchased and shipped to one of the company's Colorado factories. The new plant, however, will be ready for operation in time to handle next year's crop, it is stated. S. Sinsheimer, general manager of the Holly Sugar Co., recently made a personal inspection of the growing sugar-beet crop around Las Cruces, and expressed himself as well pleased with the situation.

MISSISSIPPI'S MOVE FOR BETTERING LABOR CONDITIONS.

Better Homes, Better Schools and Less Fee-Grabbing Robbery for Negroes.

Jackson, Miss., August 29—[Special.]—Mississippi's State Council of Defense, organized less than six months ago and working without a penny, has increased food crops in the State from 25 to 50 per cent., has been a potent factor in conservation of foods, is working now on problems of marketing huge food crops, and has started a movement looking toward betterment of conditions affecting the negro that is revolutionary for this section.

The council will shortly be made a regular department of the State government, according to an announcement made by Governor Theodore G. Bilbo at the most recent meeting of the body. Governor Bilbo said the work of the council was only begun, and that its tremendous importance justified, he believed, the adding of the body to the government with appropriations sufficient to carry out all its plans.

A special session of the Mississippi Legislature will meet in September, and one of its chief subjects for legislation will have to do with food production and conservation. The Governor has already prepared drafts of the necessary measures.

The greater portion of the session held here Saturday, August 18, was devoted to a discussion of the labor problem in the South. Many speakers said they were convinced that the one way to keep the negro in the South was to pay him just wages, to stop once and for all persecution by fee-grabbing constables and justices of the peace, to give him better schools and living conditions generally, and to end anything resembling exploitation of his labor.

The following resolution was adopted by a unanimous vote and will be sent to every large employer of negro labor in the State:

"The State Council for Defense calls upon the white people of Mississippi to express positively the general though semi-dormant feeling that the liberty and property rights of the negroes should be scrupulously regarded by our people.

"Contented and intelligent labor will make for prosperity, while discontent and ignorance carry with them ultimate economic disaster.

"The council strongly urges the Legislature of the State of Mississippi to so amend the laws pertaining to the administration of justice in the minor courts as to remedy the evils existing in them.

"The council urges that county agents be employed whose sole duty it shall be to instruct the negroes in agriculture and home economics in co-operation with the schools and colleges for negroes."

Many negro men and women agents are already at work in the State and are finding favor among both races, according to reports from heads of the agricultural extension work in the State.

The matter of marketing the 100,000,000-bushel corn crop was taken up at length, and Mississippi farmers were urged to keep the crop at home, as it would all be needed for feeding livestock and human beings between now and the next harvest. Plans are being perfected for storing the crop in warehouses, and banks will handle warehouse receipts for corn, velvet beans and other foodstuffs as they have cotton receipts in the past. The velvet bean crop in South Mississippi alone is estimated at 1,000,000 bushels.

The council adopted unanimously a resolution urging that President Wilson take over the coal supply of the nation at once to insure a supply this winter at reasonable prices.

A campaign is already under way for winter cover and food crops, and Governor Bilbo declared at the meeting Saturday that he believed, properly supported, the council could double the huge food crops of the present year next season.

As a result of the meeting of the council it is likely that the justice of the peace system will be abolished, or radically modified by the next Legislature, that every other effort to keep the negroes contented and satisfied will be made, and that efforts to produce and conserve foods of all kinds will be kept up.

"Packed pantries are the rule among Mississippi housewives," said Miss Susie V. Powell, State director of home economics work. "We have at least a million cans of fruits and vegetables ready for winter."

\$10,000,000 for Nitrates for Agriculture

[Special Correspondence Manufacturers Record.]

Washington, D. C., September 3.

The productivity of Southern farms will be materially increased as soon as a plan of administration is worked out by the Department of Agriculture for the application of a \$10,000,000 fund for the purchase of Chilean nitrates by the Government and the sale to the farmer at cost.

To Senator Ellison Smith of South Carolina is due most of the credit in securing the passage of this constructive piece of agricultural legislation. After an uphill fight in the Senate, Senator Smith finally rallied sufficient support to secure the insertion of the nitrate resolution in the food bill, which was recently enacted into law.

Under the terms of the nitrate provision, the \$10,000,000 appropriated is made a revolving fund; that is to say, as soon as the original amount is expended, its equivalent, which will, of course, be returned to the Government by the farmers buying the nitrates, is to be used again in purchasing more nitrates.

Ways and means of administering the fund for the purchase of nitrates from the Chilean Government are now being considered by officials of the Department of Agriculture. It is probable that the plan which ultimately will be adopted will provide that the cargoes of nitrates be sold as soon as received at American ports from Chile.

Through the various State secretaries of agriculture farmers desiring to purchase the nitrates at cost from the Government will signify their intention of buying supplies either as individuals or as agricultural organizations, granges, etc. The secretaries of agriculture for the various States will then compile a list of those intending to buy, the amounts involved, and so on. These lists will be submitted to the Agricultural Department, which will then arrange for the direct sale and for the distribution of cargoes.

Senator Smith recently told the correspondent of the MANUFACTURERS RECORD that this plan of providing nitrate fertilizers to the farmer at cost could readily be worked out to a successful conclusion, and that the productivity of the farms, especially of the South, would be greatly stimulated.

Senator Smith has made a close study of the value of fertilizers in farming, and he stated that the increased yield, determined as a result of careful experiments, amounted to from 15 to 50 per cent., according to the nature of the crop and the soil. He said that the certainty of largely increased crops as a result of the application of nitrates to the soil would be of material assistance in enabling the farmers not having ready cash on hand to secure loans from the banks with which to buy nitrates from the Government.

The chief difficulty in the way of securing large supplies of nitrates for agricultural use at the present time lies in the shortage of ships. This condition, as a result of the destructive German submarine campaign, is now world-wide, and it is difficult to secure ships to make the long haul from Chilean ports to the United States. Although the United States is importing increased quantities of nitrates, practically all of these imports are diverted to the munition factories.

Although the price of nitrates to the purchaser at the Chilean fields it is understood has not increased materially since the beginning of the war, the tremendous increase in ocean transportation freight rates has nearly doubled the cost of nitrates to the consumer in this and other countries.

With the co-operation of the United States Shipping Board, however, it is expected that the Department of Agriculture will be able to secure sufficient shipping facilities to insure a steady supply of nitrates for agricultural purposes.

Senator Smith recently conferred with Chairman Edward N. Hurley of the Shipping Board regarding the possibility of an early increase of facilities to and from the Chilean fields. Mr. Hurley assured the South Carolina Senator that the importance of the Government purchase plan warranted quick action to secure more ships in the nitrate trade along the Chilean coast. Mr. Hurley's efficiency in securing results is well known, and it is not doubted that within a short time appreciable amounts of nitrates will be received in this country for exclusive agricultural use.

In the meantime, work looking to the early establishment of a Government nitrate plant in this country is progressing. The announcement of the location and the beginning of construction of the first unit of the plant is expected momentarily, and it will be turning out nitrates in quantities sufficient for commercial use by next spring.

The importance of making this country independent of the Chilean nitrate supply has been firmly impressed upon the Government by the present difficulties encountered in transporting sufficient quantities to this country, and it is evident that following a period of successful experimentation, governmental manufacture of nitrates will be entered upon soon on such a scale to make the United States permanently independent of outside sources of supply.

MILLIONS FOR RAILWAY AND POWER DEVELOPMENTS AT DALLAS.

City System of Street Railways to Be Greatly Expanded, New Interurban Lines Completed and Dallas Industries Given Benefit of Entire System of Texas Power & Light Co.

Dallas, Tex., August 31—[Special.]—Within a few months the city of Dallas will begin a new era in street railway and interurban construction involving an expenditure of more than \$6,000,000. This will be perhaps the greatest development in its line ever undertaken here, the city which introduced to Texas the first system of inter-city trolley transportation and which has developed into the center of the Southwest for electric railways.

After some years of political travail, the street railway and light and power utilities have been granted new franchises by the city of Dallas. The guarantees are J. F. Strickland, president of the Texas Power & Light Co. and the Texas Electric Railways, and to C. W. Hobson, president of the Southwest General Electric Co., the sectional branch of the General Electric, and they must purchase the local properties from Stone & Webster and the General Electric, who now own them. These Dallas capitalists are under contract, with the acceptance of the new franchises, to build two new interurban railways of Dallas. This contract also calls for the expenditure of \$2,000,000 in the improvement of the light and power service.

To the city of Dallas as a whole and to its commercial life in particular, the two new interurbans are of prime importance. The city now has four of these lines in operation, and two others building with independent capital. The two new lines, probably to be an independent company also, will enter virgin territory and bring new trade provinces into Dallas. In view of the tremendous advantages procured when the other lines were built, the new railways will vastly increase the Dallas retail trade.

For the street railway, the new franchises mean an emerging from mediocre service into a complete and complex system with new rolling stock and faster service, especially between the far-flung sections of the city. Dallas has followed the idea of city builders in one respect—an absolute refusal to cramp itself into restricted territory. This has developed an imperative necessity for fast cross-town service, and one of the first problems the engineers of the Hobson interests will tackle is to be the interlocking of lines to produce at least four cross-town lines. Double-tracking will also be another feature to command the immediate attention of the constructionists.

The light company's task is somewhat harder from an engineering point, and vastly more expensive. The new company will go underground with its wires throughout the business district, and while this work was begun under Stone & Webster management, the Strickland interests have a vast amount of detail yet to accomplish.

One of the most interesting points of the new franchises is the permission granted the local utility to tie in with the Texas Power & Light Co.'s extensive system of transmission lines. These cover North Texas

with a network of high-tension wires, "alive" every moment of every 24 hours. Dallas will then be in position to use electric power without fear of a single moment's interruption of service, for a turn of a switch will throw the "juice" of the entire Texas Power & Light system into the local system. This single point will turn a large number of Dallas manufacturers to electrical equipment. Nothing can happen to stop their plants day or night.

The program in its entirety means the expenditure in Dallas and through Dallas markets of at least \$6,000,000, possibly \$7,000,000. The transfer of the properties from the Stone & Webster and General Electric ownership is a deal which will total about \$15,000,000. The Strickland-Hobson interests are financing in New York, and their construction program is slated to begin October 1.

Armour Packing Plant at Jacksonville More Than Doubled in Capacity.

Jacksonville, Fla., September 1—[Special.]—The new addition of the meat-packing plant of Armour & Co. in Jacksonville is now nearing completion, and when placed in operation will double the capacity of the plant from 200 head of cattle and 700 head of hogs per day to 450 head of cattle and 1400 head of hogs per diem.

Although only having been in operation less than nine months, the Armour company found it necessary to enlarge its plant to take care of the stock that was available in Florida for slaughtering. When the plant was planned last year, and finally completed in November, H. B. Minium, manager, stated that the company anticipated an enlargement within two or three years, when the cattle raisers of the State would realize that they could sell their stock at home, instead of having to ship the stock to Texas and then to the markets. However, the Florida stockmen and farmers had already realized the value of a home market, with the result that the Jacksonville packing plant was unable to take care of the shipments. The Interstate Stockyards Co. has been feeding a number of cattle and hogs, waiting until the rushed business of the plant would allow them to be slaughtered.

It is estimated by the State department of agriculture that more than 2,000,000 acres of land have been placed in cattle and hog farms within the past year. Of this, Duval county is represented by over 150,000 acres of what was formerly waste lands covered with palmetto and cut-over pines.

The latest large acreage of land to be optioned preparatory to purchase for stock farm purposes in Duval county is a 15,000-acre tract in the western part of the county, which has been secured by a number of business men of Arlington, O., who have had men on the ground investigating the cattle-raising possibilities for the past three months.

Popularizing Cottonseed Flour.

New Orleans, La., September 1—[Special.]—Inquiries from every section of the country about "Victory flour" are flooding the headquarters of the "Victory Flour Council" here. Miss Kate Gordon, who is the chairman of the council, reports that plans are under consideration for the holding of a "Victory Flour Day" in New Orleans to lend popular impetus to the movement.

The leading master bakers here are now making and selling Victory bread, with its 20 or 25 per cent. proportion of cottonseed flour, and they have offered to do everything they can to further its popularization.

Letters are being received in such large volume as to indicate that the entire United States will soon be clamoring for Victory bread.

Southern Cut-Over Land Association to Be Formally Organized.

New Orleans, La., September 3—[Special.]—Work of the recently-organized Southern Cut-Over Land Association will be formally launched at a general conference to be held in New Orleans Thursday, September 27. The association, whose membership will embrace many of the principal cut-over landowners of the South, plans to utilize by means of stock-raising, agriculture and reforestation, millions of acres now lying idle.

Development of Export Trade Through Southern Ports

[Special Correspondence Manufacturers Record.]

Washington, D. C., September 4.

Greatly increased activity in shipments from Southern ports is indicated in the near future under the Government plans now being formulated to accelerate the exportation of war supplies and other material to Europe.

This will be brought about through the diversion of a large percentage of the traffic now going to Eastern ports to the leading ports of the South.

Already there is great congestion of traffic at the terminals at many of the Eastern ports, especially at New York, where the situation is almost out of possibilities of control. Not only is relief to these conditions urgently demanded, but the requirements abroad call for the utilization of Southern ports, which will be found equal to the emergency to a greater extent than ever before from the standpoint of time-saving.

In this respect the Shipping Board, which has the matter in hand, anticipates the diverting of grain and similar exports to such ports as Charleston, Savannah, New Orleans and Galveston. While it may take British vessels a little longer to reach these ports than those farther North, the time will be more than recouped by the opportunities for ready docking and the immediate taking on of the cargo. The Northern ports, under the plan contemplated, will continue to a very large extent to handle the traffic in steel and most manufactured articles.

It is expected that the traffic director of the Emergency Fleet Corporation of the Shipping Board will be appointed soon. Benjamin L. Winchell, traffic director for the Union Pacific Railroad, it is learned, is being considered for the position. As earlier announced in the MANUFACTURERS RECORD, the traffic head selected will have three subordinate directors under him, who will have charge, respectively, of the Atlantic, Pacific and South American shipping requirements.

A point that has occupied the thought of the Shipping Board in connection with these plans has to do particularly with winter conditions. In the winter months snow and ice interfere materially with freight movements on the Northern railroads, whereas interferences of this character are seldom of a serious nature on the Southern railroads, where the winter movement of freight trains is said to be 50 per cent. more efficient than in the North.

Incidental to the general plans of the Shipping Board, the Railroads' War Board, which is a branch of the Council of National Defense, has recently ordered more than 7000 additional empty cars into the South and Southwest to protect grain and food movements and to facilitate lumber transportation for the cantonments and shipyards.

This action is in line with the board's policy of shifting empty cars from one railroad to another to meet war emergencies and without regard to ownership. Thus far the plan has witnessed the distribution of 113,420 cars where they were most needed since it was put in operation on May 1. The transfer of "empties" to the Southern railroads also has in view the movement of the cotton crop on normal schedule this fall.

Of the cars consigned to protect the grain movement, the numbers range from 250 to 500 for Western roads, while 200 have been diverted by the Railroads' War Board to the Gulf Coast Railroad.

The lines to which the board has ordered cars to assure the prompt movement of lumber include:

Central of Georgia, 100; Louisville & Nashville, 500; Mobile & Ohio, 350; Illinois Central, 350; Louisiana Railway & Navigation Co., 12; Gulf, Florida & Alabama, 275; Nashville, Chattanooga & St. Louis, 300; Toledo, Peoria & Western, 150; Georgia & Florida, 75; Southern, 500; Atlantic Coast Line, 1250; Atlanta, Birmingham & Atlantic, 75; Seaboard Air Line, 400; Charleston & Western Carolina, 300.

Speeding Up Work at Mobile Shipyards.

Mobile, Ala., August 29—[Special.]—The Jett-Muths Company, contractors, today began construction of two additional shipways for the Alabama Drydock & Shipbuilding Co. The ways will be 45x385 feet.

The Murnan Shipbuilding Corporation, having con-

tracts for four composite vessels for the Government, also started the first of two running ways. It was announced construction of three other ways will begin soon.

Two piledrivers are working on the shipyard of the Kelly-Atkinson Construction Co., holding contract for 18 composite vessels for the United States Shipping Board. A third driver is nearly ready to start work, while three others are being rigged out.

A Mobilian returning from Chicago said the general offices of the Kelly-Atkinson Company there has a large sign painted on cloth displayed in front of the building advertising for 1000 skilled workmen to build ships at Mobile.

FOUR HUNDRED WOODEN SHIPS THE GOVERNMENT'S LIMIT.

Reported That Sufficient Steel Ships Can Now Be Built.

[Special Correspondence Manufacturers Record.]

Washington, D. C., September 3.

The Government shipbuilding program as finally decided upon will provide for no additional wooden ships after those already contracted for have been completed. This has been officially admitted by the Federal Shipping Board.

When Edward N. Hurley succeeded Mr. Denman as chairman of the Shipping Board he gave out the statement that both wooden and steel ships would be built in considerable numbers. In his view, as then expressed, the situation called for additional shipping in large quantities and at a rapid rate of production. As regards the earlier issue, it never was seriously contended that wooden ships were as desirable as steel vessels, either for immediate use or for after-the-war purposes. Rather was it a question of the condition that confronted the nations fighting against the Central empires as regards their available material for ocean transportation upon which the outcome of the war might depend.

In this issue the wooden ships are expected to play their essential part. Approximately 400 wooden ships have been contracted for so far by the Shipping Board. Each ship will contain 1,500,000 feet of lumber, making a total wooden-ship program of 600,000,000 feet.

The abandonment of the wooden-ship program is based simply on the prospective ability of the Government to meet the situation through the construction of steel ships. If this can be done, there is no intention of renewing wooden shipbuilding. They are not as practicable for transoceanic use as the steel ships, and it is believed that the three Government-owned shipyards will be able to turn out fabricated steel ships at the rate of one ship every two days.

Contracts for the construction of the three great Government-owned ship-fabricating yards have been awarded by the Emergency Fleet Corporation of the Shipping Board to the American International Corporation, the Submarine Boat Corporation and the Merchants' Shipbuilding Co. Accompanying the awards were orders directing that the work of construction be rushed to the utmost.

Plans under consideration call for the construction on preliminary orders of more than 1,500,000 tons of steel shipping in these yards. The American International Corporation, which will operate at Hog Island, will build at least 200 ships under present arrangements, and the Merchants' Shipbuilding Co., at Chester, Pa., will construct 40 or more. The Submarine Boat Corporation, with its plant at Newark, will have facilities permitting work on the construction of as many as 28 ships at one time.

The entire appropriation of \$750,000,000 thus far allowed the Shipping Board by Congress has already been expended, either in contracts or in authorizations for work. It is probable that a new appropriation of \$900,000,000 will be allowed by Congress within the next month. The estimates submitted by the board have been examined and approved by Secretary of the Treasury McAdoo, who will make favorable recommendation

to Congress. The Shipping Board has tentative plans for further work drawn up, and is merely waiting for Congress to grant the additional allowance.

Preparations for Shipbuilding at Pascagoula.

Pascagoula, Miss., August 31—[Special.]—The wide extent and importance of the shipbuilding interest here is shown by the immense quantities of timber that are daily being brought by barge by water from Gulfport and Pensacola and other points and being stored away at the Dirks-Blodgett and the International Shipbuilding Co.'s plants. The Dirks-Blodgett Company lately acquired seven acres of land in the outskirts of Pascagoula and on the Alabama & Mississippi Railroad, which it will use as a lumber yard and for general storage. The Alabama & Mississippi Railroad is now building a line through this land to the shipyard of the Dirks-Blodgett shipbuilding plant on the East Pascagoula River, a distance of seven-tenths of a mile, and will in addition build two sidings to this land. About two-thirds of this line is now completed, and the balance will be finished this week.

Surveyors are also busy surveying out a line for the Alabama & Mississippi Railroad south to the International Shipbuilding Co., and will cross the Louisville & Nashville Railroad about .75 of a mile east of the Louisville & Nashville Railroad depot and run south to the International Shipbuilding Co. yard and then make a Y, one arm of which will run to the shipyard and the other will run about .25 of a mile south of the shipyard to a point on the Pascagoula River, where this railroad has a grant of land for terminals 868x200 feet, and which will be about two-tenths of a mile north of the mouth of the Pascagoula River. The total length of track will be about 2.25 miles.

The Alabama & Mississippi Railroad is also at work extending its line into Laurel, Miss., and it is expected that the line will be completed by January, 1918, which will give the shipyards at Pascagoula a direct rail route to the large lumber mills at Laurel and its vicinity via the Wausau Lumber Co. road.

The International Shipbuilding Co., in announcing that it would build steel vessels, stated that it could build steel vessels here in spite of the fact that the railroads seem disinclined to grant concessions as freight on steel, as its steel material could be delivered by all-water route at the shipyard at Pascagoula for 18 cents per hundredweight.

New Shipbuilding Plant at Rockport, Tex.

Corpus Christi, Tex., September 1 [Special.]—Heldenfels Bros. of Beeville, Tex., are to build ships at Rockport, county-seat of Aransas county.

Recently Heldenfels Bros. announced that they had secured from the Government a contract for four hulls to be delivered before December 1, 1918. While the contract figures were not stated, \$300,000 was given as the approximate price for each hull.

Eighteen thousand carpenters employed on army cantonments at San Antonio, Houston, Waco and Fort Worth shortly will have finished the work, and the Beeville shipbuilders expect to experience no difficulty in securing experienced labor in their shipbuilding program.

In return for being selected as the place for building the four hulls the people of Rockport have given to Heldenfels Bros., without charge, 1000 acres of land 1½ miles south of the city limits, and have also agreed to dredge a slip 1000 yards in length by 300 yards in width. Assistance in absorbing higher rates on lumber from Texas mills than would prevail were the hulls to be built at a point nearer the mills will also be given by the people of Rockport.

The contractors expect to begin active work on the construction of the four wooden ships within the next few weeks, and have already begun organization of their forces.

Large Volume of Shipbuilding at Jacksonville.

Jacksonville, Fla., September 1—[Special.]—The value of the shipbuilding industry to Jacksonville, and especially the plant of the United States Government, is evidenced by the statement of W. C. McGowan, district chief of the Shipping Board, that the total value of the wooden ships now under contract and construc-

tion in this city would exceed \$5,000,000 and necessitating the employment of some 3000 men. He also stated that in all probability the assembling plants for the plumbing, rigging and other essentials of the vessels would be located in Jacksonville to supply the demands of the entire district, which would mean the employment of an additional 500 men and the rental of enormous warehouse facilities.

Following this last statement, the Jacksonville Chamber of Commerce assured Mr. McGowan that all the warehouse space necessary would be procured for the Government at a very low cost, and that every effort would be made to co-operate with him in facilitating the construction of the ships.

The vessels under contract by the Merrill-Stevens Company for the Government and private corporations total \$6,000,000, several of them being of steel and composite construction. The other shipbuilding plants of the G. S. Baxter Company, Florida Shipbuilding Corporation, Florida Marine Construction Co., Gibbs Gas Engine & Ship Co., Morey & Thomas, J. M. Murdoch and South Jacksonville Drydock Co. will bring these figures up to enormous proportions, and all the plants, with two exceptions, are now actually building from three to five vessels.

Old Gunboat Reconstructed for Cuban Trade.

Mobile, Ala., August 29—[Special.]—The Gulf Navigation Co., New Orleans, according to H. L. Lazarus, representing the company, today awarded a contract to the Henderson Shipbuilding Co., Mobile, to rebuild the steamer *Louis Doline*. The work will cost between \$50,000 and \$60,000. The boat will be raised six feet from the deck line, and will be rebuilt so as to carry 700 tons of freight. The *Doline* will, when repaired, be operated out of New Orleans to Cuban ports. She was built during the Civil War as a gunboat. She was then known as the *Delaware*. After the war the *Doline* was used as a revenue cutter and was called the *McLean*. Since then she has been in various trades, recently being used as a packet on Mobile Bay, plying between here and eastern shore resorts. She is an old-fashioned iron-hull craft.

Schooner *Glynn* Sold Abroad.

Brunswick, Ga., September 4—[Special.]—Announcement has been made by James S. Brailey, Jr., of Brunswick, owner of the now famous schooner *Glynn*, that he has sold the vessel to the Maritime Agency of France.

The *Glynn* is understood to be in a Mediterranean port, having delivered safely a cargo of 5000 barrels of rosin made by the Yaryan Rosin & Turpentine Co. of Brunswick. The *Glynn* was built in Brunswick by the Brunswick Shipbuilding Co., the first shipbuilding company organized in the South since the European war began, and was the first ocean commerce carrier launched south of Newport News since the Civil War.

Shipbuilding News of the Week.

Shipyards will be established near Wilmington, N. C., by the Cape Fear Shipyards Co., which has been incorporated with \$100,000 capital by Edward D. W. Langley, Frank Armstrong, Jr., and Frank Viola, all of New York. A site has been purchased at Point Peter, the junction of the Northeast and Cape Fear rivers.

The Eastern Shore Shipbuilding Co., Sharptown, Md., has been chartered with a capital of \$500,000 by Boston, New York and Washington investors. It acquires the White Shipbuilding Co., and plans to increase facilities.

Shipyards to include machine shops, marine ways, wharves, etc., will be built at West Norfolk, Va., on the Western branch of the Elizabeth River, by the Hampton Roads Shipbuilding & Drydock Co. This new corporation has been chartered with a capitalization of \$1,000,000 and the following officers: Gaylord W. Feaga, president; J. D. Carey, vice-president; J. T. Sweeney, secretary-treasurer, all of Cleveland, O. These officers, with W. A. Cox of Norfolk and I. T. Kahn of Clevenad, are the directors. Mr. Feaga and associates were recently mentioned as having chartered the Gaylord Investment Co. with a capital of \$50,000, this corporation to be succeeded by another for building

shipyards. The Hampton Roads Shipbuilding & Drydock Co. of Norfolk, Va., is the other corporation.

All the machinery has been purchased and the plant buildings will be erected by force account for the shipyards recently announced as to be located at Beaumont, Tex., by J. N. McCammon. Wooden ships, barges and other vessels will be constructed. Benjamin L. Brooks is the superintendent; John Ward, Jr., is secretary, and Mr. McCammon is the general manager of this enterprise.

Greater Production of Southern Pine Ship Timbers Needed.

New Orleans, La., August 31—[Special.]—Three hundred and seventy-five million to four hundred million feet of Southern yellow pine timbers will be needed within the next 12 months to complete the Government's wooden shipbuilding program, according to W. J. Haynen, production officer of the Emergency Fleet Corporation. Mr. Haynen, who is now at work in the Texas territory, has recently made an extensive tour of the mill districts of Florida and Alabama, and parts of Mississippi.

Yellow pine manufacturers are now cutting and shipping between 500,000 and 600,000 feet of ship timbers daily, says Mr. Haynen. This is little more than half the requirements. As a result of the scarcity of materials at present arriving at shipbuilding points, many yards are wholly or partially idle.

Bearing upon the situation, Mr. Haynen said:

"We are now cutting and shipping between 500,000 and 600,000 feet per day, which is only barely a little over half of our requirements to insure the success of the building of wooden boats under the present program of the Emergency Fleet Corporation. We have got to cut and ship 1,000,000 feet of yellow pine timbers per day for the next 11 or 12 months, and if the submarine menace and the construction of boats continues this will have to be materially increased.

"At the present time we have got about 250 wooden hulls under construction. There are at least 20 shipyards either idle or which will be idle within three or four weeks unless we can increase the shipments at once. The entire yellow pine industry and its reputation is at stake to furnish the material required to complete the emergency fleet program, and the program only means enough boats to equip and feed the soldiers in France. If the lumber people of the South will stop and think over the matter seriously, and consider the time it takes to build steel vessels (from 8 to 12 months from the time of laying the keel, they can easily see that the wooden ship will be the salvation of our troops in France, will shorten the war and save many thousands of lives if completed just as early as possible.

"The Emergency Fleet Corporation program first called for the launching of hulls in November, 1917, but the majority were to be launched after January, 1918. We are now trying to get the lumber so that we can start the launching of hulls in October and advance the 1918 program from 30 to 60 days, and to do this we need the help of all the Southern pine manufacturers.

"We have arranged to take some of the items in cypress, and the cypress manufacturers are now investigating so as to give us their entire help and co-operation to advance and complete the program.

"About 60 per cent. of the mills in the Southern pine territory, and among them the largest mills, are doing their utmost, working night and day, going to extra expense and putting every log that they can possibly get into their mills into ship timbers. The other 40 per cent. of them have not yet realized what it means to have the ship program delayed, and I hope on this trip through the South to impress them with the actual conditions, the necessity, and get their help in the same spirit that we have the 60 per cent. that are turning out from 500,000 to 600,000 feet per day."

Officials of the Southern Pine Association, which represents the greater proportion of the mills cutting ship timbers, advise that as far as can be ascertained the association's subscribers are cognizant of their obligations to the Government, and every effort is being made toward the fulfillment thereof. In some quarters difficulty is encountered by reason of the shortage of labor, which condition will be aggravated if the eight-hour bill introduced by Senator Poindexter is passed. It is hoped, however, that the opposition, which is steadily growing, will defeat this injurious legislation. Further difficulty is encountered by reason of the off-cut result-

ing from the manufacture of ship timbers. This by-product in various commercial sizes and grades must be shipped to prevent congestion at the mills, and where adequate cars are not furnished for commercial shipments the efficiency of the mill in its service to the Government on ship timbers is seriously impaired. It is reported that steps are being taken to see that an extra supply of cars is furnished mills cutting ship schedules as an auxiliary aid to the Government's ship program.

TEXAS RANGE CATTLE FOR FLORIDA.

Government Officials Assist in Move for Conservation of Livestock.

Jacksonville, Fla., August 30—[Special.]—Owing to the serious drought and resulting shortage of pasture grasses in some of the Western States, a large number of the pure-bred and high-grade breeding cows and heifers will have to be moved to better ranges or sent to the slaughter-houses to prevent total losses on the herds.

The United States Bureau of Animal Husbandry officials have been exerting every energy to have the good breeding stock conserved for production of calf crops in the future, realizing that the beef cattle industry will be greatly diminished if the animals die on the ranges or are sent to market.

At the request of a representative of the bureau, the Florida State Livestock Sanitary Board has adopted a resolution waiving the requirement previously promulgated that all cattle entering the State must be accompanied by an affidavit that such animals have been tested for tuberculosis and proved free of the disease, so as to allow range cattle admittance without undergoing the tuberculin test.

However, each shipment must be certified by the State veterinarian or some other recognized State official to be bona fide range stock that has not been known to have experienced exposure to the disease. All other cattle must be tested and certified as free from disease.

Members of the board feel that they will facilitate the importation of good range-bred stock into the State without in any way jeopardizing the cattle industry through introducing any tuberculosis diseased animals.

Several carloads of Texas pure-bred cows have been purchased by Florida cattle men for foundation herds, and indications point to several hundred such cattle being brought into the State within the next few weeks.

It is a noticeable fact that practically all of the cattle are being placed on tick-free farms or in counties where tick eradication work has begun. More than one-half of the State is now included in the territory where dipping vats are being constructed at county expense, 21 counties having made appropriations for this work. The introduction of the Western breeding cattle is speeding up the tick eradication campaign in those sections.

The importance of tick eradication to development of the cattle industry is emphasized in the statement made by county agricultural demonstration agent J. E. Cheatham of St. John's county to the county commissioners that he personally knew of two ranch propositions in the county which were being held up until the owners were assured that the county would start tick eradication work. One ranch would get 1000 pure-bred Herefords and the other one 200 head of the same breed. The county commissioners promptly voted to appropriate the amount requested for starting the work.

Vast Salt Beds in Texas and Louisiana.

In Kansas a deep well struck rock salt at 600 feet below the surface and penetrated 600 feet of rock salt in beds from 5 to 60 feet thick, according to the United States Geological Survey, Department of the Interior. A large area in this State is underlain by salt, which is mined by many shafts and obtained by pumping brine. Drilling for oil in Texas and Louisiana has revealed the presence of tremendously thick deposits of rock salt at a depth of a few hundred feet. Thicknesses of 2000 feet are common, and one drill hole passed through more than 3000 feet of rock salt. Most of the salt made in Utah is produced by evaporating the water of Great Salt Lake, and in California by evaporating sea water. These sources are inexhaustible, and the limit of production by solar evaporation will therefore never be reached.

Big Part Played by Southern Pine in Nation's Preparations for War

[Special Correspondence Manufacturers Record.]

New Orleans, La., September 3.

Still in the midst of the abnormal conditions brought about by the necessity of furnishing on short notice a considerable amount of materials to meet the Government's war needs, the Southern pine industry is now nearing the close of the most extraordinary year in its history. Although relatively high prices have prevailed during the past several months, mills have been prevented from obtaining a full measure of profits such as has been enjoyed by other lines of business.

The fact that the Southern pine lumberman is not receiving his whole share of the general prosperity of the country is largely due to transportation difficulties, which although felt all over the nation, have been particularly severe in the Southern pine belt. Lumber manufacturers, more perhaps than any other class, are susceptible to harm when facilities for making shipments are hampered, and have not received proper recognition at the hands of the carriers.

Another factor mitigating against the mill operator is that the Government requirements have prevented the yield of a far greater profit than could have been derived from domestic business. Just as shipping facilities were at their lowest ebb, the Government entered the market for some 200,000,000 feet of Southern pine for the construction of cantonments, national guard camps, aviation barracks, etc. The Federal commandeering power was immediately brought into play, and all cars needed were taken over for the prompt movement of materials. Thousands of empties were rushed to the South, and out of this initial assistance of the Government there has grown a general improvement in the situation, shipments at present being considerably above normal, though still constituting primarily Government business, domestic trade being now virtually at a standstill, many salesmen having recently been taken off the road, unshipped order files being full, but generally being worked off.

The war has developed the most remarkable chapter in the history of Southern pine. How it has been possible, in little more than two months, to prepare quarters for the housing of more than 750,000 men offers a story of industrial efficiency that marks the first great victory for America's democracy in the world war.

Cantonments, of which there are 16 for the training of the new national army, as well as an equal number for the former National Guard, have been finished not only on time, but in some cases several days in advance of the September 1 limit set by the War Department when the work was first outlined. This has been made possible only through the prompt mobilization of the greatest industrial army ever recruited in the world. One hundred thousand carpenters have erected at various places within the past 60 days more than 30,000 buildings for the troops, many of them large two-story barracks quarters.

Early in the war a number of prominent manufacturers representing the Southern Pine Association were called to Washington for consultation with the heads of the War Department and of the Shipping Board, and from this was evolved the Southern Pine Emergency Bureau, the most distinctly war-time business organization since our break with Prussianism. The bureau is an absolutely independent body, and represents the mobilized resources of the entire industry, both members and non-members of the Southern Pine Association, and serves as a direct distribution agency for the Government. By means of stock sheets showing the kinds and amount of lumber on hand at mills, the bureau is able to place orders in such manner as to insure prompt possible deliveries with minimum freight haul. The lumbermen agreed on a price of \$20 per thousand feet for all cantonment and camp materials furnished the Government, which is below prices for similar material that have been prevailing in the domestic market.

As an evidence of the remarkably prompt manner in which the Government received immense amounts of lumber at various points throughout the United States, Fairfax Harrison, chairman of the Railroads' War Board at Washington, cites in a recent report an instance in which lumber was cut from a Mississippi pine forest, loaded, shipped to Louisville, Ky., and placed in one of the buildings at the cantonment near that

city, all within a week. In other words, forest trees were literally transferred into completed buildings nearly 1000 miles away within less than seven days.

In addition to manufacturing cantonment lumber, many mills have been engaged recently in cutting the big timbers which are going into the nation's fleet of wooden commerce carriers. Between 500,000 and 600,000 feet of ship timbers are being shipped from the mills to shipbuilding points each day, and when mills get fully under way on these orders it is estimated that they will be cutting 1,000,000 or more feet of ship timbers every 24 hours. In their desire to fully meet the requirements of the Emergency Fleet Corporation, many large plants are now working night and day. The production officer of the Fleet Corporation is authority for the statement that within the next 12 months Southern pine mills will be called on to cut between 375,000,000 and 400,000,000 feet of ship timbers. An idea of the immensity of these requirements may be gained when it is stated that this is equivalent to approximately 20,000 loaded freight cars of timbers, or 476 solid trains.

Aside from war business, the domestic trade has been very fair, though handicapped by transportation difficulties, which are somewhat less acute at the present time. It is believed that Southern pine mills will this year even exceed the output of 1916, which was 14,975,000,000 feet, almost a record-breaking production. Prices on the relatively small proportion of commercial business that the mills have been able to ship have been such as to somewhat alleviate the long period during which many mills have operated practically at a loss, thus causing the Southern pine manufacturing industry to acquire the reputation of "an industry without dividends."

The labor situation has offered even more than the usual amount of difficulties during the present year. The rapidly growing cost of living has necessitated general wage advances, the scale of pay received by mill workmen being today 15 to 20 per cent. higher than it was a few months ago.

Manufacturers have further assisted their men by in many cases furnishing employees with rent-free houses, on condition of their cultivating gardens and small farms near their homes, the land for which was provided without expense to those utilizing it.

The negro exodus to the North has been severely felt, more so in some sections than in others.

Mill operators have been further disturbed recently by the introduction in the United States Senate by Senator Poindexter of Washington of a bill providing an eight-hour workday for sawmills and other woodworking plants. Many protests are now being sent to Washington against the enactment of this measure, and it is believed it has small chance of passage.

In addition to higher wages, millowners are confronted with the necessity of paying more for nearly every item that enters into the manufacture of lumber. Machinery has doubled in price since the war began, and is today almost unobtainable at any figure. Fuel, oils, grease and other commodities used at mills are up almost as much.

Notwithstanding these difficulties, the year has seen many new plants started, and has been notable in that it has witnessed the first definite steps toward the utilization of the millions of acres of cut-over lands throughout the South left idle in the wake of the lumberman. The Southern Cut-Over Land Association, an organization supported principally by lumbermen who are landowners, has recently been organized to undertake this gigantic task, and will have operating headquarters in New Orleans.

At the offices of the Southern Pine Association it was stated that 1917 has been the most successful year in the history of that organization, the membership having increased nearly two score.

Southern Textile Association to Hold Meeting During Textile Exposition Week.

Greenville, S. C., September 3—[Special.]—The fall convention of the Southern Textile Association will be held here on November 15-17. It is planned to have

brief sessions during the three days, and a number of well-known speakers will be on the program.

The second Southern Textile Exposition will be under way during the week of November 12, and this added attraction, which promises to eclipse any similar affair ever held in the Southern States, will bring to Greenville the largest attendance in the history of the Textile Association.

The semi-annual meetings of the Southern Textile Association are well attended, and its sessions have always proven helpful to those who attend and participate in its deliberations. There are many technical questions upon which the members debate, to the end that much practical value is derived.

The owners and managers of the Southern textile mills have lately recognized the value of these meetings to their overseers and superintendents, and many of the mills now encourage attendance by paying the expenses of their men. It is expected that many of the mills throughout the country will send large delegations to Greenville this fall to attend both the exposition and the meeting of the association. The educational value of such attendance can hardly be overestimated. At the exposition will be seen the last word in modern textile manufacturing methods, and the association is planning to have the best talent that can be procured to instruct the membership along practical lines.

The new textile building, which is now well under way, will be completed in ample time for the event.

A section of the Exposition Hall has been set apart as "Mill Products Department," and it is the purpose of the management to gather here a wide and representative line of textile products made in the South. An open invitation is extended to all textile manufacturers to help make this department one of the strongest features of the exposition. All matters pertaining to the exposition should be addressed to Southern Textile Exposition, Inc., Greenville, S. C., and those concerning the association should be addressed to A. B. Carter, secretary, Greenville, S. C.

Texas Experiments With Paper-Making From Cotton Stalks.

Dallas, Tex., August 29—[Special.]—Plans which have been on foot here for some time looking to the building of a large mill for the manufacture of paper from cotton stalks have reached that point when it is believed their fulfillment is practically assured. The project is being promoted by Z. E. Marvin of Dallas, and associated with him in the project are A. C. Eble, Eli Sanger, Harry A. Olmsted, E. P. Angus, E. W. Rose and Harry L. Seay, all of whom are prominent in business circles here. Experiments in manufacturing paper from cotton stalks were begun several months ago by means of specially designed machinery which was installed in a paper mill situated in the Oak Cliff suburb. After a series of tests it was found that paper could be made economically and that the product was of a good grade.

It is the expressed belief of Mr. Marvin that the utilizing of cotton stalks for the manufacture of paper will quickly assume great industrial importance. The cotton stalks, instead of being waste material, as they are now, will be of value to the farmers. It is planned by Mr. Marvin and associates to pay the farmers \$10 per ton for baled cotton stalks in carload lots.

An investigation into the possibilities of manufacturing paper from cotton stalks has been in progress in this State for some time by different parties. The State Department of Agriculture has lent its efforts toward awakening an interest in the possibilities of the proposed industry. Besides the project which Mr. Marvin and associates are promoting, A. J. Eilers of Austin and others have been working on plans for some time to build a large plant of this kind at some point in Central Texas, probably at Waco.

\$10,000 Worth of Vegetables Raised on Vacant Factory Land.

Garden produce estimated to be worth \$10,000 is being grown on a 60-acre tract of factory land at Schenectady, N. Y. The land is held by the General Electric Co. for future expansion, and is being farmed by more than 1000 of its employees. Last year at this time the same area of fertile river bottom soil was yielding only weed and wire grass.

News and Views from Our Readers

Belgium the Kaiser's Grizzly Bear.

CAS. E. CHIDSEY, Pascagoula, Miss.

The Kaiser's determination to invade Belgium by force of "military necessity as the shortest and most convenient road to Paris" and the result that followed it recalls to mind a picture that I saw when a boy in what was then the leading agricultural paper in America, the American Agriculturist.

It was a bright moonlight night, and the full moon was looking placidly down a mountain path between two peaks of the Cascade Range. A lone miner was going home, and he was making a short cut across the mountains. His mule's eyes were rolling in terror and his nostrils distended as he scented danger, while the miner, calmly smoking his pipe, was urging the mule forward. On a ledge of rocks just above and looking down with surprised expectation was a huge grizzly bear. The picture bore the suggestive title, "The Longest Way Around Is the Shortest Way Home."

The Kaiser perhaps has never seen this picture, but I will venture a guess that he knows the truth of its legend and realizes that his short cut through Belgium is the longest way home. For little Belgium has been the grizzly bear in his path of whose existence he never dreamed.

Great Activity at Sheffield.

H. FONTAINE LITTLE, Sheffield, Ala.

Some extraordinary industrial developments are taking place here in Sheffield and this immediate district. Recently the Sheffield Iron Corporation, with a capitalization of \$775,500, was formed at Albany, N. Y., with James Gayley, president, which is in part reorganization of the Sheffield Coal & Iron Co.

The local furnaces of the company and the ore fields in Franklin county, near this city, are now being opened up, and at an early date the furnaces will be blown in. Later on a battery of probably 400 coke-producing ovens will be constructed here, according to announcement, at a cost of probably \$1,000,000.

Warren L. Kluttz, formerly manager of the Central Coal & Iron Co. of Tuscaloosa, becomes vice-president and general manager of the company's plants and operations in the Sheffield district.

Messrs. Armstead and Fulbright, rolling mill operators of Birmingham, have taken over the Sheffield rolling-mill plants, and propose to put them in operation September 1.

With the resumption of work at the above-named plants, and the operations of other furnaces, railroad shops, pipe works and several smaller foundries, and splendid steamboat service on the Tennessee River from here to Northern points, Sheffield is face to face with a new order of things, and is on quite a boom. Sheffield will soon have a monthly payroll of \$100,000.

Quite a building activity has started here. Many newcomers are locating here because of these new conditions, and business of all kinds has been given quite an impetus. The future is exceedingly bright for Sheffield and its immediate community.

"Is It Meet to Take from the Mouths of Babes and Feed It Unto Dogs?"

HENRY V. MAXWELL, General Manager Maxwell Manganese Mining Co., Elizabethton, Tenn.

It would seem that the forceful articles published in the MANUFACTURERS RECORD were enough to induce action, but so far as I have observed, the sheep-killing dog and his usually worthless owner are the things most immune from just taxation, and even under the stress of present necessity "Old Pete" comes stalking through the land.

No impulse of the human heart is stronger than the love of some masters for their dogs, and, prompted by a sense of grateful return for like, the love of the faithful in a measure warrants the impulse, but should as well prompt the protection of his friend. He should do

"Old Pete," in the minds and language of the Appalachian mountaineers, is a mythical breeder of starvation.

it by making property out of him and by making of his dog an asset rather than a curse.

Professional politicians feed through the medium of votes and while agonizing between the pressure of their oaths and their appetites and realizing at the same time that the vote of the owner of a worthless cur weighs as much in the ballot-box as does that of a man who contributes to the welfare of his fellow-man and his country, the politician salves his conscience with some mystic lotion and shields a horde of worthless canine to feed upon the lambs which he knows in his heart should be protected, while with the power of his vote the worthless owner writes an insurance policy on the life of his dog.

The war is on. The women of the world are canning things and knitting things, and even sweltering in the fields while rinsing with their tears thoughts of their brave boys who are pouring their life-blood upon foreign shores while owners of curs feed them on sheep, shirking their duty to aid in steering the ship of State across the bar to check the breakers rolling toward us from afar.

The war tax knows no beaten trails, but is blanketing the United States for money with which to win the fight, and it is the time and the opportunity for the supreme lawmakers unhampered by petty fears to do today what the Legislatures of the various States have failed to do—impose a tax of \$10 or more each within 60 days, or a dead dog and \$1 for his scalp. Then more sheep, more food for the babies and more money in the war fund.

A Suggestion for Cheaper Brooms from Broom Sage.

O. P. MCPHERSON, Gloster, Miss.

Appreciating your untiring efforts in behalf of the South, I do not care to bore you, but there is one thing of particular importance that is being overlooked, and that is, the extreme prices of the ordinary broom. Today the broom that once was retailed for 15 cents is selling for 50 and 60 cents, and even \$1 does not purchase a broom of any great value and service now.

I would be glad if you will call the attention to all capital open for manufacturing investments that throughout the South we have a broom sage that grows in an abundance, and can be bought for almost nothing. This sage makes an excellent broom, and was used always by our grandparents, and surely in this advanced age someone can devise a better plan for it to be converted into service than they did. I believe this offers a great opportunity to some to build small factories throughout the South and to manufacture brooms from this broom sage.

Suffolk Wants New Hotel and Newspaper.

CARL SPILLER, Secretary Chamber of Commerce, Suffolk, Va.

This city will profitably support a modern hotel of moderate size. A site available for such a purpose may be obtained without cost under certain reasonable provisions. Also local capital may be interested.

Suffolk is the "greatest peanut market in the world," and annually brings great numbers of people here.

The Chamber of Commerce is behind such an endeavor both by endorsement and practical assistance.

Also, the city is in need of and will profitably support a daily newspaper. This organization is behind this enterprise, and will assist in obtaining capital if necessary.

The Motion Seconded.

N. B. STEWART, St. Louis, Mo.

Referring to letter forwarded by unknown reader with the exhortation "Shoot him full of holes, Mr. Edmonds," if my friend puts this as a motion I will second it.

There are only two men that I know of that need to be literally shot full of holes worse than this man, and that is the Kaiser and von Hindenburg, and perhaps

the Crown Prince. I fear I would be forced to smile if a few stray bullets should hit W. J. S. and "Lay-fool-it."

This is probably too rank to publish, but it is just about the way I feel about it, and I believe I am as strong an advocate of peace as Isaac of old.

SOLIDIFIED PETROLEUM WASHED ASHORE OFF TERREBONNE COAST.

Boring for Oil in Houma District—Casinghead Gasoline to Be Made at McCormick Well.

Houma, La., August 31—[Special.]—Two wells are being drilled in Terrebonne parish with the view to making this a proven oil district. One well is being drilled by the Terrebonne Oil & Gas Co. on the west bank of Bayou Terrebonne, a half mile from the proven gas field, and the other is being drilled by the Bayou Cane Petroleum Co., seven miles north of Houma.

The Terrebonne well is below 3000 feet, and the Bayou Cane well has passed 2500 feet in depth. The drillers of both wells successfully cased off strong flows of gas, and are continuing work in the hope of bringing in oil gushers within the next 10 days or two weeks.

Two tons of solidified petroleum that was washed ashore on Last Island has been purchased by Albert M. Dupont, a merchant of Houma. Several more tons of the solidified petroleum remain on the island. The theory of experts is that a stream of oil flows into the Gulf of Mexico off the coast of Terrebonne parish, and that the salt water hardens or solidifies the oil and casts it ashore on Last Island. Solidified petroleum has existed on Last Island for many years, but it attracted little attention until natural gas in enormous quantities was discovered in Terrebonne parish.

Practically every acre of land in this parish that shows the slightest surface indications of oil or gas has been leased by the large oil and gas companies, but very little in the way of development work is being done at this time on account of the shortage in pipe.

Nine shallow gas wells, ranging in depth from 90 to 150 feet, are now in operation in Houma. The wells are furnishing fuel for three industries in the city and several residences.

McCormick gas wells Nos. 1 and 2, brought in several weeks ago, will produce gasoline, and this will add a new industry to the field as soon as the new equipment can be secured to extract the gasoline from the gas.

Contractor Wanted for Aviation Camp at Lake Charles.

New Orleans, La., September 3—[Special.]—It is learned from Washington authorities that 30 buildings are to be erected on the Lake Charles (La.) aviation field as soon as a contractor can be found who will undertake the work under the conditions laid down by the Government. As soon as the barracks are ready for occupancy instruction will be begun.

The Lake Charles camp is a two-unit school. Each unit contains two squadrons and each squadron consists of 450 men, according to statements made by the Signal Service. The strength of each squadron will consist of students, mechanicians, oilers, testers and other workmen, which will number about 1800 persons. In addition to this, there will be required a force for the construction of buildings, digging of sewers, piping in the water and installing electrical equipment. It is expected, therefore, for the camp's population to exceed 2000 men.

Capt. C. T. Waring, with headquarters at Fort Worth, Tex., will be in full charge of the construction of the camp at Lake Charles. Transportation matters will be handled by H. B. Allen, formerly a rate clerk in the New Orleans offices of the Texas & Pacific, who will also be located at Fort Worth.

Commerce Reports states that seven leading German dye manufacturers have formed a 50-year combine for the purpose of reconquering United States trade after the war.

American Smelting and Refining Company's Tests with Sulphur and Sulphuric Acid on Soils

By P. J. O'GARA.

[The recent articles in the Manufacturers Record in regard to sulphur as a fertilizer by Mr. Courtenay DeKalb, have attracted widespread attention, some commendation and some criticism. The latter was from fertilizer interests who express the belief that the advantages of sulphur in fertilization have been overstressed in these articles and that sulphur could not be generally used advantageously for this purpose.

The question is one of such far-reaching importance that it demands the widest investigation in order that the actual facts may be brought to light, whether favorable or unfavorable to the broad use of sulphur as a fertilizer.

Mr. DeKalb's first article was based, as stated at the time, largely on the investigations made by Dr. P. J. O'Gara, the director of the Agricultural Experiment Station maintained by the American Smelting & Refining Co., one of the greatest industrial interests of America, located near Salt Lake.

Dr. O'Gara's article, written for the Mining and Scientific Press of San Francisco, awakened widespread interest, and based on the facts presented in that, Mr. DeKalb, associate editor of that publication, prepared the first article for the Manufacturers Record and later on followed it with other discussions on the subject.

In view of the interest aroused pro and con, and in order to bring forth as wide an investigation of the matter as possible, the Manufacturers Record gives in full the article by Dr. O'Gara as it appeared in the Mining and Scientific Press.

Dr. O'Gara's position as the director of the Agricultural Experiment work of so great a corporation as the American Smelting & Refining Co. necessarily gives force to what he says in regard to the investigations made by himself and others in the use of sulphur as a fertilizer.

Shortly after the publication of the first article by Mr. DeKalb we asked a number of leading fertilizer concerns of the country to give us their views on the subject, whether favorable or unfavorable. We have not been able to secure anything for publication from them excepting the letter by Professor Haskell of the Soil Improvement Committee of the National Fertilizer Association in last week's issue, which was not at all a full reply to the statements that have been made on the subject. They seem to fight shy of committing themselves to anything for publication.—Editor Manufacturers Record.]

In agriculture it has long been recognized that the essential elements of plant food are nitrogen, potassium, phosphorus, calcium, magnesium, carbon, hydrogen, oxygen, iron and sulphur. It is also recognized that other elements, while not essential, are more or less beneficial. It is well understood, of course, that plants cannot use the elements as such, but make use of them in the form of water-soluble compounds; for instance, sulphur cannot be used by the plant as sulphur, but as a sulphate; nitrogen cannot be used as nitrogen, but as a nitrate, and so on. Until recent years, although sulphur has been considered one of the essential plant-food constituents, it has been given a relatively secondary place. The earlier analyses of plants showed that sulphur was not found in them in amount equal to some other elements, the element phosphorus being one in point. However, it has been found that the method of analysis for sulphur was faulty and that the more recent method, now in common use in agricultural laboratories, shows a much greater quantity of sulphur present in plants than was heretofore supposed to exist. In fact, the error in the old method of analysis was such that on an average not more than 10 per cent. of the sulphur in the plant was recovered, 90 per cent. being lost by volatilization. Greater errors than this have been checked against the old method. It is found by comparing the two methods of analysis that plants or portions of plants may show 200 times as much sulphur with the new method as compared with the old. Therefore, the new method of analysis has brought sulphur into prominence as an element of plant food, indicating that it actually exists in plants in amounts greater even than phosphorus. Instead of being an element of minor importance it is now looked upon as an element of the greatest importance.

Experiments to determine the value of sulphur as a plant food when added to the soil, either as elemental sulphur or in the form of a compound, have been carried out to a considerable extent within very recent years. A number of U. S. Experiment Stations, such as those of Wisconsin, New Jersey, Ohio, Kentucky, Iowa, Oregon, and California have within the past few years made some remarkable discoveries as to the beneficial effects of sulphur when added to the soil as elemental sulphur or as sulphuric acid. Certain European experiment stations have also added to the knowledge of the value of sulphur as a plant food. Probably the most important work so far done on soils that are

such soils would not be greatly benefited by treatment with elemental sulphur as compared with sulphuric acid.

During 1914 and 1915 the American Smelting & Refining Co., on its Utah experimental farm, made a long series of experiments on the effects of sulphur dioxide on soils and on plant growth. It was shown, for instance: (1) That the water solubility of the alkali was lowered; (2) that there was a reduction in carbonate; (3) that there was an increase in sulphate; (4) that there was an increase in available potash; (5) that crops fumigated daily throughout their period of growth with sulphur dioxide in concentrations just below the toxic limit, that is, without visible injury to the foliage, showed either a slight gain, or at least no loss in total vegetal matter produced, as compared with check-plots grown under identical conditions but not treated with sulphur dioxide; (6) that the sulphur content of the plants was increased when treated with SO_2 ; (7) that in general the sulphur content of plants is an index of the protein content, that is, high sulphur indicates high protein; low sulphur indicates low protein.

These experiments were carried out with plants grown under normal field conditions of cultivation and irrigation. In general they were treated just as the regular farm crops on the farm were treated. Therefore, the experiment was in no wise of the laboratory type. As pointed out, the sulphur dioxide, under the conditions of application, did not reduce the yield, but rather increased it. Upon analysis of the various plants it was shown that there was an increase in the protein content of the fumigated crops as compared with the untreated check plants. These important findings were accounted for first, by virtue of the direct effect of the sulphur dioxide on the soil; and second, because of the stimulating effect of the sulphur dioxide on the plants, since it was found that both the soil and the plants readily absorbed sulphur dioxide. These experiments were continued during the year 1916, and the results fully corroborated the work done in 1914 and 1915.

In addition to the experiments with sulphur dioxide gas, field experiments of a somewhat pretentious nature were carried out with elemental sulphur and sulphuric acid during 1916. Summarizing these experiments with sulphur and sulphuric acid, it may be said that a very uniform tract of land was selected for the experiments and was divided into three equal parts. The chemical and physical characteristics of the entire tract were extensively uniform. One-third of the tract was treated with elemental sulphur, which was carefully spread over the surface at the rate of 400 pounds per acre, and was then harrowed into the soil. Another third was treated with sulphuric acid, 46 degrees Baume, at the rate of 2172 pounds per acre, this acid having a sulphur equivalent of 400 pounds of elemental sulphur per acre. The other third was allowed to remain untreated as a check. The three tracts were plowed, and the sulphur and sulphuric acid added to the respective tracts on April 18, 1916. All subsequent irrigations and cultivations for all three plots, considering the various crops, were identical, both as to time of application and amount of water and the time of cultivation, the purpose being to check out every other factor that might enter into the development of the crops. The accompanying tabulation indicates the number of crops utilized in the experiment and the results that were obtained:

Increase in Crop Yields From Treatment With Sulphur and Sulphuric Acid Compared With Untreated Soils.

Crop.	Planted.	Harvested.	Per cent. gain	
			Sulphur treatment.	Sulphuric acid treatment.
Alfalfa	Apr. 20	8-7-16	36.8	8.5
Barley	Apr. 20	8-7-16	52.6	8.6
Beets (sugar)	Apr. 20	9-28-16	3.7	2.1
Corn	May 17	9-16-16	13.1	20.3
Kaffir corn	Apr. 20	9-30-16	42.9	58.9
Millet	Apr. 20	8-12-16	41.4	66.6
Milo maize	Apr. 20	9-30-16	182.6	172.6
Oats	Apr. 20	8-11-16	57.3	72.9
Peas (Canadian field)	Apr. 20	7-26-16	383.3	95.1
Potatoes	May 17	10-4-16	63.0	2.3
Squash (Utah giant)	May 17	9-22-16	152.7	59.5
Squash (Hubbard)	May 17	9-22-16	187.9	42.4
Sudan grass	Apr. 20	9-30-16	23.9	18.1
Turnips	Apr. 20	7-26-16	10.4	50.4
Wheat	Apr. 20	8-7-16	127.8	90.6

The accompanying photographs reveal in a most striking manner the results accomplished by treating soils with sulphur and with sulphuric acid. The general superiority of sulphur as a fertilizer stands out

prominently. Cut No. 1 shows the effect of a plot treated with 400 pounds of elemental sulphur per acre. The luxuriance of the growth as compared with that shown in No. 2 and No. 3 is most convincing. No. 1 is a similar crop of squash grown on soil treated with sulphuric acid, 46 degrees Baume, at the rate of 2172 pounds per acre, this being the equivalent in sulphur content of 400 pounds per acre. No. 3 shows a parallel plot which has received no special treatment. Cut No. 4 reveals the effect of treating the soil with sulphur at the rate of 400 pounds per acre, showing, from left to right, corn, sorghum, millet, Sudan grass, oats, alfalfa and squash. The corn is over 6 feet high, the sorghum not yet headed, the millet 3½ feet high, and the Sudan grass between 5 and 6 feet high. Cut No. 2 shows similar growths in the same order grown on soil treated with 46 degrees Baume sulphuric acid at the rate of 2172 pounds per acre. Cut No. 6 is a check plot showing similar crops grown on untreated soil. The corresponding yields are given in the foregoing table.

It will be noted that in general the plots treated with sulphur showed a greater gain in total vegetal matter produced than those treated with sulphuric acid. There are, of course, some exceptions, but in general the elemental sulphur produced the best results in the majority of crops. As indicated above, sulphur was applied to the soil at the rate of 400 pounds per acre,

and the sulphuric acid was applied at a rate sufficient to give the same sulphur equivalent. This is at the rate of about 45 grammes per square meter and indicates, in comparison with several experiments that have been made elsewhere, a maximum application in some instances and a minimum application in others. It may be stated that our experiments, although carried out under field conditions, were in the nature of preliminary tests. We did not attempt to determine the lower or upper limits of sulphur which would produce maximum results in crop yields. This has been left for further experiments on various soil-types containing varying percentages of alkali and soil moisture. These experiments are now under way and will be completed during the year 1917, when it is hoped that more definite statements may be made as to the proper amount of sulphuric acid or sulphur to be used in producing maximum results on Utah soils.

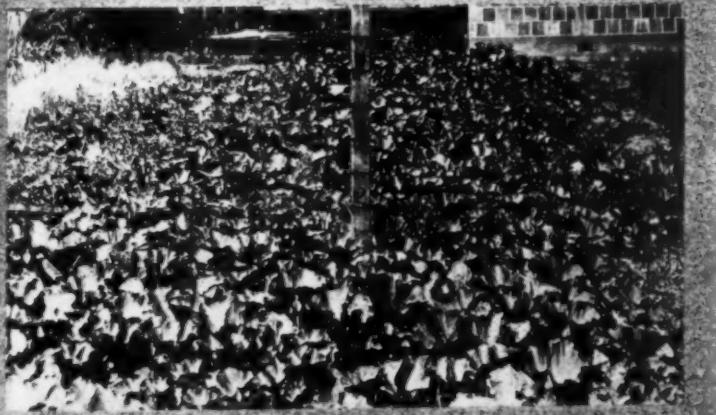
In conclusion it may be stated that analyses of the soil of the three divisions into which the field was separated showed: (1) That the water solubility of the alkali was reduced about 20 per cent. in soils treated

with sulphur and sulphuric acid as compared with the untreated soils in check plots; (2) that the availability of potash in the sulphur and sulphuric acid-treated soils was increased approximately 20 per cent. as compared with the untreated check-plots; (3) that sulphur and sulphuric acid-treated soils showed an increase of sulphate; (4) that sulphur and sulphuric acid-treated soils showed a decrease in carbonate; (5) that sulphur and sulphuric acid-treated soils increased the yields of all crops with which experiments were made; (6) that sulphur and sulphuric-acid treated soils produced crops with a higher protein content.

A large number of soil-samples were taken from all three divisions so as to reduce the possible error, and it was found that there was no determinable difference between the effects on the soils treated with sulphur



1 Treated with Elemental Sulphur



2 Treated with Sulphuric Acid



3 Check-plot Untreated



4 Treated with Elemental Sulphur



5 Treated with Sulphuric Acid



6 Check-plot Untreated

and those treated with sulphuric acid. Aside from the important matter of rendering available more of the potash, the lowering of the water solubility of the alkali is of importance. The fact that soils having a water soluble alkali content somewhat above the limit for general agricultural purposes may be brought under cultivation by treatment with sulphur or sulphuric acid, means that vast areas of now useless lands may be profitably farmed, and that an outlet will be found for the excess sulphur thrown out by smelters as a useless by-product because there has been no sufficient market for it.

The important point which all of the above experiments emphasize is that sulphur, whether it be in the elemental form, in the form of a gas, such as sulphur dioxide, or in the form of a liquid as sulphuric acid, if applied, even in considerable amounts, to alkaline soils not only does not injure the soils, but acts in a very beneficial way. By inspecting the table given above it will be noted that the increase in the yield in certain crops has been enormous where soils were treated with sulphuric acid and sulphur as compared with the untreated check-plots. While the figures as presented seem almost unbelievable, results secured by other experimenters have been even better. Work done in Oregon by the Southern Oregon substation of the Oregon Agricultural Experiment Station has indicated that yields of alfalfa may be increased up to 500 per cent. by the use of sulphur compounds. Many other experimenters have produced greatly increased yields in various farm crops through the use of sulphur and sulphur compounds, so that the value of sulphur as a most important fertilizer is no longer doubted. It is known that large quantities of sulphur are taken from the soil each year by crops, and also that a considerable amount is lost through drainage. It is, therefore, evident that in time the soils become deficient in sulphur. We know that analyses of precipitation taken throughout the various parts of the United States, far removed from the vicinity of smelters, indicate that certain amounts of sulphur are carried down into the soil from the air. However, this amount is small in proportion to the amount used by the plants and that which would be lost through drainage. Hence the necessity of making up the deficiency by the application of fertilizer containing sulphur compounds, or by the direct addition of sulphur or sulphuric acid.

Cotton Conditions in August.

The United States Department of Agriculture estimates, from the reports of the correspondents and agents of the Bureau of Crop Estimates, that the condition of the cotton crop on August 25 was 67.8 per cent. of a normal, as compared with 70.3 on July 25, 1917, and 70.9, the average on August 25 of the past 10 years.

A condition of 67.8 on August 25 forecasts a total production (allowing 1 per cent. from planted area for abandonment) of about 12,499,000 bales. That is, the final outturn will probably be larger or smaller than this amount, according as conditions hereafter are better or worse than average conditions. Last year's production was 11,449,930 bales, two years ago 11,191,820, three years ago 16,134,930 and four years ago 14,156,486.

Comparisons of conditions, by States, follow:

State.	August 25		Ten-year average.	
	1917.	1916.		
Virginia	76.6	90.0	84.0	
North Carolina	69.0	65.0	76.0	
South Carolina	74.0	57.0	74.0	
Georgia	68.0	62.0	74.0	
Florida	65.0	58.0	76.0	
Alabama	65.0	45.0	70.0	
Mississippi	75.0	49.0	68.0	
Louisiana	75.0	64.0	64.0	
Texas	55.0	66.0	69.0	
Arkansas	79.0	71.0	73.0	
Tennessee	80.0	80.0	80.0	
Missouri	83.0	80.0	79.0	
Oklahoma	84.0	56.0	68.0	
California	90.0	92.0	*96.0	
Arizona	89.0	....	....
United States	67.8	61.2	70.9	

*Seven-year average.

According to the United States Department of Agriculture, the herds of Europe have been diminished on account of the war by 28,000,000 cattle, 54,000,000 sheep and 32,000,000 hogs. An accelerated increase in this diminution of meat animals must take place in Europe from month to month as long as the war lasts.

Heavy Decrease in Coal Output.

The Government's weekly report on the production of bituminous coal and the causes of loss of working time, compiled by the Geological Survey, Department of the Interior, September 1, 1917, states that a direct measure of the serious effect of labor trouble is furnished by the statistics of coal production for the week ended August 18. In this week, by reason of strikes in Illinois and the Southern Appalachians, the ratio of tonnage produced to full-time capacity, as limited by present labor supply, was lowered for the country from 71.8 per cent. to 62.5 per cent. In the districts directly affected the reductions were, in Illinois from 70.3 per cent. to 54.8 per cent., and in Eastern Kentucky and Tennessee from 74.2 to 10.8. Conditions in Iowa, Indiana and Ohio improved slightly, and the output percentage in Western Pennsylvania declined from 78.2 to 69.4.

PERCENTAGE OF PRESENT FULL-TIME OUTPUT PRODUCED IN CERTAIN STATES BY ALL OPERATORS MAKING WEEKLY REPORTS.

State.	Week Ended				
	July 21	July 28	Aug. 4	Aug. 11	Aug. 18
Iowa	86.4	87.3	87.5	82.6	85.3
Illinois	77.1	76.0	72.6	70.3	54.8
Indiana	69.3	67.8	69.5	63.2	71.8
Ohio	69.2	69.4	73.7	70.2	73.2
Western Pa.	77.9	76.3	78.1	78.2	69.4
Southwestern Va.	96.1	95.8	94.9	94.0	93.9
Eastern Kentucky and Tennessee	81.0	82.6	68.6	74.2	10.8
Alabama	91.4	88.4	88.8	85.9	
Kansas and Missouri	78.2	69.5	64.9	72.2	
Okl. and Ark.	69.2	79.0	63.4	66.0	65.5
Total reporting from beginning	76.3	75.3	73.0	71.8	62.5

The number of cars of coal loaded on roads representing more than half the output showed a gain of about 3 per cent. in the week ended August 25 compared with the week ended August 18. Alabama and the Southern Appalachian district recorded a decrease; Pennsylvania, Ohio and the smokeless fields of West Virginia showed increases.

CARLOADS OF COAL ORIGINATING ON PRINCIPAL COAL-CARRYING ROADS.

District.	Week Ended					
	July 21	July 28	Aug. 4	Aug. 11	Aug. 18	Aug. 25
Alabama, Eastern Kentucky and Eastern Tennessee	8,794	9,415	7,579	8,275	6,755	5,358
Illinois, Indiana and Western Kentucky	17,923	16,766	14,452	16,452	16,701	17,672
Pennsylvania and Ohio	44,372	44,190	41,397	42,420	39,903	42,586
West Virginia and Virginia, smokeless	10,709	10,733	10,212	10,762	10,662	11,378
West Virginia and Virginia, high volatile	16,632	17,360	16,648	17,702	16,812	16,640
West of the Mississippi	1,704	1,813	1,794	1,858	1,700	1,762
Total	100,134	100,767	92,082	97,469	92,433	95,396

For the country as a whole the loss attributed to labor shortage and strikes increased from 9.4 per cent. for the week of August 11 to 19.8 per cent. of the full-time output. At the same time, the loss due to shortage of cars decreased from 13.4 to 11.2 per cent. This change is in part to be attributed to an actual improvement in car supply in districts unaffected by the strike, made possible by the release of cars from the affected districts. In part, however, it is caused by the necessity of ascribing all time lost during a strike to the strike alone, when in point of fact the supply of cars would have been insufficient to permit full-time operation.

The production of beehive coke in the Connellsville and adjacent districts during the week ended August 25 was little affected by labor trouble. The ratio of production to rated capacity increased slightly over the figure for the preceding week for both coke and coal shipped. Shortage of yard labor remains the most conspicuous factor restricting the output of coke. One-fifth (19.9 per cent.) of the rated capacity was lost for this cause, as compared with 5.6, the percentage lost for lack of cars. Labor shortage restricted the output of coal for shipment to one-half the rating.

PRODUCTION OF BEEHIVE COKE AND COAL WITH CAUSES OF LOST TIME, AS REPORTED BY OPERATORS IN THE CONNELLSVILLE, GREENSBURG AND LATROBE DISTRICTS, PENNSYLVANIA.

	Coke.		Coal for Shipment.		Total Coal Shipped and Made Into Coke.	
	Week Aug. 25.	Week Aug. 18.	Week Aug. 25.	Week Aug. 18.	Week Aug. 25.	Aug. 18.
Capacity, based on railroad rating	129,910	100,0	100,0	100,0	1,014,615	100,0
Production	301,315	71.6	70.2	73.5	594,722	58.6
Losses:						
All causes	119,595	28.4	29.8	240,500	62.7	419,893
No coal cars	.....	.....	48,350	12.6	48,350	4.7
No coke cars	13,365	3.3	5.6	.....	20,947	2.1
Labor shortage:						
Mine	11,935	2.8	2.0	191,700	50.0	35.9
Yard	83,860	19.9	19.6	.....	.....	125,790
Strike	210	0.1	.....	450	0.1	765
Plant disability	9,625	2.3	2.1	.....	0.5	14,438
All other causes	.....	.....	.....	.....	0.5	1.4
Cause not specified	.....	.....	.....	0.5	.....	0.3

Output of Cottonseed and Its Products for 1916-1917.

The year's record of cottonseed received, crushed and on hand, and of cottonseed products manufactured, shipped out and on hand, covering the period from August 1, 1916, to July 31, 1917, are given in a preliminary report issued by the Census Bureau. The quantity of seed received at the oil mills during that period was 4,493,528 tons, the quantity crushed was 4,473,930 tons and the quantity on hand at the mills July 31 was 33,927 tons.

Cottonseed Received, Crushed and on Hand (Tons).	Received		Crushed		On hand
	at mills	Aug. 1 to July 31	at mills	Aug. 1 to July 31	
State.					
Alabama	198,584	195,279	3,335		
Arkansas	369,792	368,303	1,877		
Georgia	767,065	765,088	5,454		
Louisiana	174,148	174,101	153		
Mississippi	388,794	387,670	4,130		
North Carolina	263,827	264,118	316		
Oklahoma	308,066	307,279	965		
South Carolina	261,436	260,695	1,465		
Tennessee	297,956	289,896	5,168		
Texas	1,352,192	1,349,171	7,333		
All other	111,368	112,328	71		

United States..... *4,493,528 4,473,930 33,927

*Does not include 14,329 tons on hand at mills August 1 nor 205,678 tons reshipped.

Cottonseed Products Manufactured, Shipped Out and on Hand.

Item.	Produced		Shipped out	
	On hand Aug. 1	Aug. 1 to July 31	On hand	Aug. 1 to July 31
Crude oil, pounds	*6,807,871	1,403,979,199	1,396,443,468	*10,205,340
Refined oil, pounds	221,639,915	†1,281,848,954	.....	129,255,970
Cake and meal, tons	179,518	2,222,688	2,907,126	95,060
Hulls, tons	56,656	968,316	976,717	48,255
Linters, 500-lb. bales	15,206	1,328,492	1,244,389	\$107,035
Hull fiber, 500-lb. bales	13,560	473,784	485,973	57,983
Motes, grabots and sweepings, 500-lb. bales	2,161	33,120	27,042	\$5,521
Includes 4,438,521 and 2,928,559 pounds held by refining and manufacturing establishments August 1 and July 31.				

respectively, and 3,371,700 pounds in transit to refiners and consumers July 31.

†Produced from 1,382,415,414 pounds crude oil.

‡Includes 15,246,429 pounds held by refiners, brokers, agents and warehousemen at places other than refineries and manufacturing establishments and 3,794,184 pounds in transit to manufacturers of lard substitute, oleomargarine, soap, etc., July 31.

§Includes 7226 bales of linters, 712 bales of hull fiber and 282 bales of motes, grabots and sweepings stored elsewhere than at the mills.

The Cotton Movement.

In his report for the month of August, Col. Henry G. Hester, secretary of the New Orleans Cotton Exchange, shows that the amount of cotton brought into sight during one month was 480,740 bales, a decrease under the same period last year of 36,693 bales. The exports were 341,418 bales, a decrease of 36,662 bales. The takings were, by Northern spinners, 162,321 bales, an increase of 78,844 bales; by Southern spinners, 246,306 bales, an increase of 4111 bales.

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The Danger in War Taxes on Profits as Proposed

THE ENGLISH THEORY INAPPLICABLE TO AMERICAN CONDITIONS

By A. B. MACATTAMANY, Westfield, N. J.

Is it not an absurd proposition to levy a tax on "excess profits" of eight per cent., based upon capital invested in a concern, and then levy right on top of that another tax on excess profits based upon an average profit for a number of years?

Has the Finance Committee of the United States Senate discarded the principle embodied in the existing law, as enacted March 3, 1917? If so, it must be for the reason that the present enactment is unjust, impractical and impossible of universal and equitable application.

It would appear that another theory is being considered; well it may be.

Acute minds have appeared before the Finance Committee of the Senate. Nor have they appeared with a single eye to their own interests. The indisputable logic of their reasoning has been reinforced by a patriotic ardor not to be mistaken for demagogic or mercenary selfishness.

Can the theory of taxation as applied in England to excess profits be applied with sound results in America? Business methods and customs in England are ultra-conservative. There the estates pass on from father to son. Concerns are kept intact and bear kinship to family lineage itself.

In the United States the converse is true. Upstarts rise like flaming meteors—captains of industries bloom from office boys and clerks or from gamblers by nature who by lucky turns of the wheel or by uncanny foresight rise to be leaders of force or influence.

America is the mother of new industries which spring up unexpectedly and take their places of vital influence in the commercial arena.

Germany has failed us and herself as a world market. It is an inevitable consequence of that fact that our centers of industry are dotted with paper mills, saccharine factories, dye works, paint factories, machine shops of many kinds, and what not?

These flourishing concerns represent substantial investments of capital. They are an offshoot of the international conflict.

But we are overlooking a line of industries of a different kind. Concerns in no sense fathered by the war, but which have just waxed prosperous these past few years, after struggling along for a decade, and not breaking even in those preliminary years of development. To revert back and take the profits of the three years before the war as a basis to assess "average profits" and thus levy a tax on the "excess" would be nothing short of confiscation. It would put the sheriff's writ of attachment on the doors.

The taxation of "excess profits" in America, in accordance with the English method, would encourage monopoly. The well-established corporations would operate their business at an unfair margin of profit, for under such regulation new concerns with limited capital would not see the light of day.

Supposing there are two concerns that have been long established. They are both rivals in the same line, but have reaped a fair return for years on the capital invested. The industry in which these two competitors are engaged is not affected by the war or connected with it in any way. In 1914, for instance, a third concern enters the same line. But this third competitor has to profit by experience and lose a quarter of a million in the initiation. Keen competition, advertising appropriations, as well as lack of experience help total up the loss. But the next year the tide turns. Application and patience, coupled with success at negotiating a loan to carry over and to provide increased facilities for the greater demand, results in a net profit of \$300,000. Now that the pendulum has swung in the right direction, \$600,000 was netted the following year of 1916. Thus the average profits for the three years were \$300,000. But the two pioneers in the line have been cleaning up a million a year for a decade or two—and that sum represents their average profit. Now would not the third concern be handicapped by \$700,000 per annum

and as a competitor with heavy loans outstanding which would have to be paid as well as the assessment? The loans would be called because of the discrimination.

Let us analyze it further: Supposing the smaller concern started in business in 1912. The first year it sunk \$500,000; the second year it went behind \$150,000; the third twelve months it broke even, while in the fourth milestone it cleaned up \$500,000 and in 1916 or the fifth year its earnings rounded out a million.

Now during the five years those two larger concerns have been knocking out a million with the regularity of a clock. But the average profit of that smallest concern of the three was \$170,000.

The consequences are patent, for the manifest discrimination might enable the two larger competitors to destroy their smaller rival.

Even if some provision be made to fix a certain per cent. on the profits of those who have begun business since the war broke out, or within the average period, two laws levied against "excess profits", and applying differently to both companies engaged in the same business, would have to be confronted. Unjust inequalities would be the result.

That a tax on net profits is the only solution of this problem should be evident.

Most of those who appeared before the Finance Committee were in entire accord on that proposition.

Conditions are too upset to permit of visionary or unsound experiments. A flat tax on net profits earned at the present time will result in a uniform tax levy against all lines of industry and against all concerns in each industry. By such a method business confidence would not be shaken. The business world would remain intact, and a burden would be shouldered fairly which would insure its being assumed cheerfully by all concerned.

CATTLE AND HOG RAISING ACTIVITIES IN MISSISSIPPI

Outside People Buying Land for Livestock— Shipping Hogs Heavily to Feed the West.

Jackson, Miss., September 1—[Special.]—Indications are that the attention of livestock owners is at last being turned toward Mississippi, where cheap lands, abundant water supply, good natural pastures, long growing seasons and good markets have long offered a combination that has only recently been taken advantage of.

During the past week R. B. Young, a native of Scotland, and a large cattle-grower in the Argentine, purchased a large tract of land in Hinds county, paying \$48,000 for it, and will convert it at once into a model stock farm.

Mr. Young has 10,000 acres in the Argentine, and will market this year 3000 head of cattle.

A company of cattle and hog-raisers from Waukesha, Wis., purchased a large plantation in Madison county during the past week, and will raise Holstein cattle and fine hogs.

Plans are under way for the purchase of as many cattle in the drouth-stricken regions of Texas as can be shipped into Mississippi, the only drawback to the arrangement being lack of transportation.

Thousands of the Texas cattle have been sold, and Mississippians are anxious to buy cows and heifers so as to start in the livestock business on a large scale.

More than \$5,000,000 will be brought into Mississippi by the first of January from co-operative hog shipments, and if prevailing prices continue, the amount may pass even this large figure.

It is estimated that the State will ship 200,000 hogs this year. This will be nearly double the number shipped last year, and in 1915 there were not more than 15,000 shipped. The sudden development was brought

about through the co-operative shipment plan, which is still growing daily.

Considerably more than half the counties of the State have shipped hogs under the co-operative plan, and with the Government planning to put a farm demonstration agent in every county to assist food production, it is expected that next year will see another tremendous increase in this industry.

St. Louis buys most of the hogs from Mississippi, although the State's own packing plant at Natchez takes care of many carloads in a year, and pays top market prices. Other such packing plants are in contemplation. The one at Natchez has been a financial success from its first month.

Farmers have already learned that it pays to ship only finished hogs, and the greater part of the stock that moves to market this fall and winter will bring prices from 15 cents a pound upward. Five years ago 8 cents a pound was considered large.

Hog-raising promises to become one of the State's most important and profitable industries.

Redistribution of Western Herds as Basis for Increase of Livestock.

New Orleans, La., September 3—[Special.]—Transfer of immense herds of cattle from some of the less favored parts of the Western ranges to the better grazing lands of the South will be one of the first things undertaken by the Southern Cut-Over Land Association when it begins active operations next month.

"After the war," says the United States Department of Agriculture and Food Administration, "Europe, with diminished animals, and therefore diminished annual production of animal food, will require larger imports of meats during the years of recuperation, and will probably require the actual import of breeding animals. Therefore, in a broad way, the outlook to the American producer from now on and after the war will be (a) a large demand for animal products, (b) a continuing necessity for meat and dairy animals to convert forage and grains not needed for human consumption into meats and dairy products.

"The herd and flocks of the country can only be increased over a period of years, and the foundation for such an increase should be laid at once.

"Owing to the large measure of failure of roughage available in Western ranges this year, there must be either a reduction in Western animals or their redistribution into the Central and Southern States, where there is a larger amount of roughage and concentrates available than ever before. Therefore, if the roughage in the Central and Southern States is saved in an economical manner, and if stocker steers, young cows, heifers and ewe lambs of good quality that will be marketed during the next 90 days from the Western sections of the country are redistributed, these animals will have been saved and the foundation will have been laid for a material increase of our herds."

Broom Corn Bringing Large Returns in Texas Coast Section.

Corpus Christi, Tex., August 31—[Special.]—Fancy prices for broom corn ranging from \$300 to \$350 a ton are encouraging farmers of the coast section, especially of that part of the State between the Nueces and Rio Grande rivers, to plant heavily, and those who have grasped the opportunity are now reaping the golden harvest.

At Pharr, in the Rio Grande Valley, one farmer planted 37 acres in broom corn that made five-eighths of a ton to an acre, and for the crop he received \$312 a ton, or a total of \$6015 from the 37-acre crop.

In the Rio Grande Valley it is estimated that \$2,000,000 will be paid to farmers for their 1917 plantings of broom corn.

In Nueces and other counties of this section broom corn can be planted as late as December 15, and only a nominal amount of rain is needed to make a crop.

Alaska's trade with United States in the fiscal year 1916-1917 set the new record of \$100,000,000; previous highest, in 1916, \$75,970,000.

Drilling Long Bolt Holes in Lock Walls.

By D. H. HUNTER, San Antonio, Tex.

Some interesting work was done late last fall and in the early winter by the United States Engineers at Lock and Dam No. 1 on the Brazos River, Navasota, Tex. This consisted in drilling flat holes from 12 to 17 feet in depth, through the concrete walls of the lock and in placing reinforcing rods through these holes to tie the walls of the lock together.

This lock and dam were built as a part of the Government enterprise of making this stream navigable for vessels of light draft. After completion it was ascertained that the water pressure on the inside of the lock was so great as to crack the bottom of the lock, due to the loose character of the earth supporting the walls on each side. The lock is 55 feet wide. It was, therefore, proposed to strengthen the lock walls by the method outlined above.

The problem consisted in selecting means to drill the long flat holes required. Reciprocating drills mounted on tripods were considered, but objection was raised to them on account of the first cost of the equipment and the necessity for making foot holes in the bottom of the lock for the legs of the tripods. It was also considered that the drilling could not be done as near the bottom of the walls as desired. Reciprocating drills mounted on quarry bars were also suggested, and the suggestion discarded for similar reasons.

Drilling engineers of the Sullivan Machinery Co. then suggested the use of rotator hammer drills equipped with a cradle or shell mounting complete with feed screw and mounted on the arm of a 2½-inch single-screw column. This method was adopted. As shown by the illustration accompanying this article, one end of this column was braced against the wall on which the drilling was being done, and the other end against the end of a telephone pole which stretched across to the opposite wall of the lock.

The work of drilling was accomplished very successfully, the holes being true and in line. The material encountered was concrete made of limestone rock. Forty-four holes were drilled, some to a depth of 12 feet and some of them 17 feet. Thirty-eight of the holes were begun with a gauge of 3 inches, finishing at 2½ inches; six with a starting gauge of 3½ inches, finishing at 2¾ inches. The longest length of steel employed was 20 feet. These holes were drilled at a slight angle above the horizontal, about one foot in twelve. Seven-eighths inch hollow hex. steel was employed, using a six-point rose bit. The drills were placed about four feet back from the wall, and were operated by compressed air at 80 to 100 pounds pressure. The holes were cleaned of their cuttings at first by air only, using a hose with a small pipe long enough to reach to the bottom of the hole, and connected with the air line. Later a more satisfactory arrangement was employed, the hose being connected with a pump and a jet of water kept in the hole all the time. The drilling proceeded faster with this assistance. The 12-foot holes were put in in about one hour and a half with the aid of the water jet, the 17-foot holes in about

two hours' drilling time. Two men were used with each drill.

In addition to the horizontal holes above described, additional holes were drilled, starting about three feet above the lower end of the long holes at as sharp an angle as possible, and intersecting the long holes about two feet inside the face of the wall. The drills were held by hand for this work. When these holes were completed they were used for grouting in the tie rods.

Two-inch wrought-iron rods, with turnbuckles, were then inserted and tightened up after the grouting had set. The work proved entirely satisfactory, and the lock is again being used for its regular purpose.

The above information is furnished by Mr. C. V. Brainard, engineer in charge, under the direction of Lieutenant-Colonel Barden of the United States Engineer's office at Dallas, Tex.

Urging Need of Pipe Lines to Distribute Terrebonne Parish Gas.

New Orleans, La., September 1—[Special.]—The Gretna-Harvey-Jefferson parish industrial district, opposite New Orleans, will probably be the first to use the natural gas of the McCormick wells in Terrebonne parish. This district contains some 20 or more distinct manufacturing plants of an average value of between \$200,000 and \$300,000.

Located at Gretna is the million-dollar molasses and syrup plant of the Penick & Ford Company, which is as complete as any plant of its kind could be, with its own cooperage, can and refrigerating departments. Three or more large cotton-oil factories are in operation, and the Jefferson Distilling & Denaturing Co., which manufactures alcohol from domestic and tropical blackstrap molasses and reclaims potash from the distillery slop, is one of the largest units in this \$15,000,000 industrial group. The stock of this concern is said to be now worth \$1000 a share, par value \$100. It is one of Louisiana's prize war babies.

If the Government lends its aid to those who are endeavoring strenuously to have the natural gas piped to Gretna, the gas should be there ready for manufacturing use within the next three months.

The only obstacle in the way of getting natural gas to Gretna is the impossibility of obtaining pipe without the Government's assistance.

It is estimated that the piping of this gas to Gretna and New Orleans will mean a saving of 3,000,000 tons of coal a year, and this fact is being urged upon the National Council of Defense as more reason why they should help the gas men and the factories to get the pipe.

The two wells now in have a daily flow of 180,000,000 cubic feet of gas, and a third well is expected to be brought in shortly.

It was thought possible that the natural gas would be used first for manufacturing purposes in the sugar district of Terrebonne, but the high cost of piping at this time has dissipated the possibility of securing gas

this season, but every effort will be made to have it piped in by next season.

The doubling of manufacturing investments at Gretna is forecasted to follow the introduction of the natural gas there. Within the past two years improvements amounting to several hundreds of thousands of dollars have been made, and when cheap fuel like natural gas is obtainable industrial development will expand rapidly.

Recently a company which intends to obtain potash from sand marls in the South purchased a large Jefferson industrial site. It is said that if the natural gas is pumped there work on this new project will soon start.

In New Orleans the opposition of the present artificial gas corporation has to be satisfied. They have offered to rent their pipes in the city to the natural gas interests.

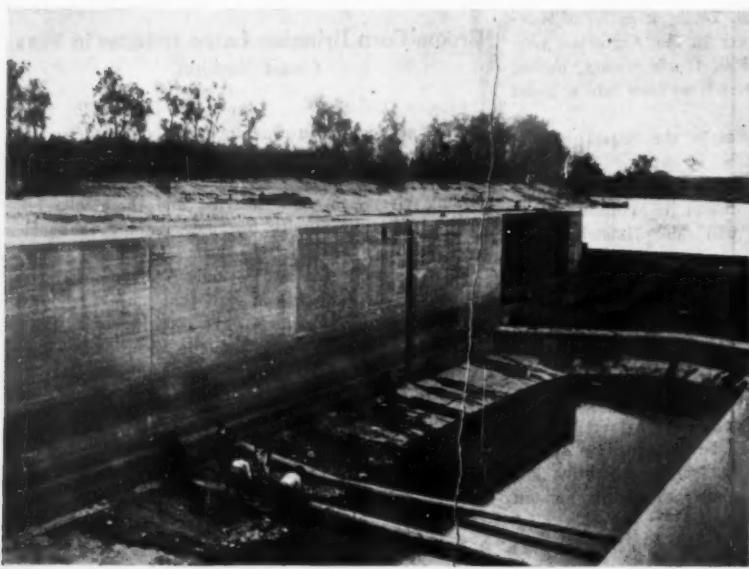
Sweet Potato Drying Plant at Jacksonville.

Jacksonville, Fla., September 1—[Special.]—Realizing the necessity of prompt action regarding the erection of warehouse and curing plant facilities in Duval county to handle this year's sweet potato crop, which will approximate 900,000 bushels, the board of governors of the Jacksonville Chamber of Commerce on August 31 formed an organization to finance the project, and will at once apply for a charter with a capitalization of \$50,000.

Work on the buildings will be commenced at once within a short distance of Jacksonville, and when one building is completed others will be constructed in different sections of the county. It is hoped to have the curing plants in operation by October 15 or November 1, in order to take care of the crop, which will then be harvested.

Duval county has raised enough sweet potatoes for home consumption and a small surplus to market, but this year, on account of the request from Washington to grow more food products, the farmers of the county have planted over 3500 acres of vegetables, from which the State Agricultural Commissioner estimates will be harvested over 900,000 bushels. The erection of the sweet potato warehouse and curing plants will give Duval county another cash crop, and the recent construction of a large grain elevator to handle the corn crop places the farmers on a real basis for food conservation.

The officers of the new organization are all members of the Chamber of Commerce, and are as follows: A. P. Anthony, president of the People's Bank; F. C. Groover, president of the commerce body; B. R. Kessler, secretary of the commerce body; Horace Drew, member of the board of governors and a city commissioner; Telfair Stockton, capitalist and member of the State Legislature; R. P. Marks, attorney; John D. Baker, member of the board of governors of the commerce body, and head of the Baker & Holmes Company; J. F. Zetsche, president of the Bank of South Jacksonville; C. Lyman Spencer and Jay H. Durkee.



ILLUSTRATING A METHOD OF DRILLING HOLES THROUGH CONCRETE WALLS OF LOCK ON BRAZOS RIVER FOR PLACING REINFORCING RODS TO TIE THE LOCK WALLS TOGETHER.

ENCOURAGING SOY BEAN PRODUCTION.

Government Agents Visit Texas to Urge the Greater Cultivation of Important Food Product.

Austin, Tex., August 29—[Special.]—An effort is being made to make soy beans one of the valuable standard crops of Texas. As a result of a campaign to this end that was inaugurated more than a year ago by the Texas Industrial Congress and other organizations that are striving to bring about an increase of the agricultural products of this State, there is now being harvested a large yield of the beans in the localities where they were grown. The cottonseed-oil mills have also done much to promote the growing of soy beans along with peanuts, as both of these products have proved to be of great value for the manufacture of oil and by-products such as meal and cake for livestock feed.

Alfred G. Smith, who is connected with the farm management bureau of the United States Department of Agriculture, has been making a tour of Texas for the purpose of investigating the possibilities of growing soy beans on a very large scale. He found that the black waxy land belt of Central Texas is peculiarly well adapted to the growing of these beans, and that there is no good reason why enormous yields of them should not be obtained. It is practically assured that the acreage of soy beans in this State next year will be many times what it was this season. In discussing the soy-bean crop of the United States Mr. Smith said that the principal production at this time is confined to North Carolina and South Carolina.

"There were marketed in North Carolina last year," he continued, "more than 600,000 bushels, some selling as high as \$2.45 a bushel. The bean is planted and cultivated much like corn. It may be placed broadcast in corn, about two bushels to the acre, and after the corn is gathered laid open for hogs. It will last them until Christmas. When cotton is well advanced soy beans may be drilled in alternate middies, leaving other alternates for the picking machine. The bean is a great manufacturer of nitrogen from the air, and not only enriches the land, but aids crops, such as corn or peanuts, planted in alternate rows with it. Cotton planted on the soy-bean field in the following year will make 10 to 20 per cent. better crop than normal.

"More than 100,000,000 bushels of the soy beans make up the world crop. Of this crop, 98 per cent. is produced in China, Japan and Manchuria. The United States, especially in the South, is beginning to be a considerable producer, the South especially, because the South has the cottonseed-oil mills with facilities for crushing the beans. It is the belief of the National Government that this ought to become a very valuable American food crop. It seems to be the belief of the cottonseed crushers that by adding the beans to the supply of cottonseed a longer run may be made and less idle time experienced for their plants, now run for about a third of the time.

"It has been found that the bean will grow well in any place where corn thrives. The chief drawback in America has been lack of a market. But many of us are eating these beans every day in the form of the famous baked bean, with which the soy bean is very extensively combined. In fact, the taking is so prompt at \$2 a bushel to the farmers that the crushers get only a small part of the whole.

"Soy beans need a close soil. The black, waxy land of Texas seems to be especially adapted to it. It produces about 60 per cent. as many bushels as corn. If alternate rows of corn and beans are planted, two-thirds of a full crop of each ought to be gathered. The bean may be planted as early as May or as late as July, when the oat and wheat crops have been removed from land to be used. The harvesting is with a mechanical picker, which will handle in the 10 days' gathering season, for the beans ripen all at one time, 40 to 45 acres. The machine threshes the bean as it gathers the pods, after the frost has removed the leaves, so that practically all of the vegetation is left to enrich the land. An average of one-eighth of the beans are lost in this process, about the amount of toll that would be paid where the beans are cut with the entire vine and threshed in the usual manner. Hogs are allowed to run on the land and eat the shattered beans, so that they are not lost."

WANTS NITRATE PLANT FOR LOUISIANA

Proposition to Keep the State's Sugar Mills Busy All the Year.

Houma, La., September 1—[Special.]—Following the action of the Louisiana State Council of Defense in urging the Federal Government to furnish money for the establishment of a nitrogen and nitrate plant in this State, Paul J. Dupont, a Houma business man, has asked the Government authorities at Washington to equip the sugar mills of Terrebonne parish with the necessary machinery so that they can make nitrogen.

Mr. Dupont has pointed out that a majority of the sugar mills in the sugar belt are idle nine months in the year, and as they are already supplied with boilers and engines, the only additional equipment that will be necessary is the machinery for extracting nitrogen from the air. With the natural gas field in close proximity to the sugar mills, and an abundance of fuel, Mr. Dupont believes that nitrogen can be manufactured in Terrebonne parish cheaper than any other section of the country.

Utilization of the plants of the sugar mills, which are operated only three months in the year, and are idle the other nine months, has been agitated for several years, but only a few of the sugar factories are being used in other manufacturing enterprises. Recently two of the sugar mills in Terrebonne parish added machinery to their plants for the manufacture of cattle feed, and have met with success. The two mills are manufacturing cattle feed from "paillefinne," or marsh grass, which grows wild in the prairies of South Louisiana. The "paillefinne," or marsh grass, is mixed with molasses, cottonseed meal, corn, etc., and produces a high-grade cattle food. No expense is required in the cultivation of "paillefinne." From two to three cuttings can be secured from the same land each year.

Construction of Charleston Armor-Plate Plant Formally Started.

Ground was formally broken last week by the Secretary of the Navy, Josephus Daniels, for the big Government armor-plate plant and projectile factory to be erected at Charleston, W. Va. A large number of Government officials as well as representative citizens of Charleston and West Virginia were present on this notable occasion.

Addresses were made by Secretary Daniels and Governor Cornwell of West Virginia, and an official reception was held in honor of the visiting officials. In his address Secretary Daniels pointed out that Congress, after careful consideration, adopted the policy of Government plants and voted \$15,000,000 to erect a plant for making projectiles and armor plate, and after a careful consideration of all sites available 200 miles from the coast, as provided in the Congressional act, Charleston was selected, and that this was a high compliment to the city, its people, its facilities, its advantages and its resources. Secretary Daniels stated that it was expected the projectile factory would be in operation by next April and the armor-plate plant within 18 or 20 months, and together these plants will employ over 1700 men and will constitute an important military manufacturing establishment.

The location of this important plant at Charleston is a strong endorsement of the points continuously emphasized by the MANUFACTURERS RECORD that such plants as munition and other industries, upon which the country is so vitally dependent in times of war, should be located at interior points protected from interference in event of invasion, and that the South has complete resources for industries of this kind to serve the nation's need in times of peace as well as war.

Southern Industrial Developments.

During August the Construction Department of the MANUFACTURERS RECORD published 4312 brief statements regarding Southern industrial developments, financial and railroad operations, construction of buildings, etc.; 30,802 items along similar lines of construction and various proposed and accomplished developments having been reported within the preceding seven months, from January to July, inclusive, the list of items published in the Daily Bulletin and the MANU-

FACTURES RECORD totals 35,114 for the eight months of 1917.

Items for the seven months were previously detailed. Under appropriate headings, items for August are shown in the accompanying table:

Industrial and Developmental.	
Airplane Plants, Stations, etc.	4
Bridges, Culverts, Viaducts	50
Canning and Packing Plants	19
Clayworking Plants	4
Coal Mines and Coke Ovens	204
Concrete and Cement Plants	3
Cotton Compresses and Gins	31
Cottonseed-Oil Mills	9
Drainage Systems	19
Electric Plants	54
Fertilizer Factories	10
Flour, Feed and Meal Mills	42
Foundry and Machine Plants	40
Gas and Oil Enterprises	146
Hydro-Electric Plants	3
Ice and Cold-Storage Plants	29
Iron and Steel Plants	4
Irrigation Systems	8
Land Developments	56
Lumber Manufacturing	65
Metal-Working Plants	9
Mining	79
Miscellaneous Construction	33
Miscellaneous Enterprises	123
Miscellaneous Factories	138
Motor Cars, Garages, Tires, etc.	92
Railway Shops, Terminals, Roundhouses, etc.	9
Road and Street Work	222
Sewer Construction	52
Shipbuilding Plants	42
Telephone Systems	15
Textile Mills	45
Water-Works	74
Woodworking Plants	22

Buildings.	
Apartment-Houses	45
Association and Fraternal	25
Bank and Office	59
Churches	68
City and County	54
Courthouses	15
Dwellings	221
Government and State	67
Hospitals, Sanitariums, etc.	53
Hotels	56
Miscellaneous	28
Railway Stations, Sheds, etc.	39
Schools	268
Stores	124
Theaters	24
Warehouses	42

Railroad Construction.	
Railways	84
Street Railways	9
Financial.	
Corporations	74
New Securities	387
Fire Damage, etc.	
Machinery, Proposals and Supplies Wanted	2,506
Total for August	146
Previously detailed for January-July, seven months	661
Total for eight months	4,312
Total for eight months	
	30,802
	35,114

Columbia a Great Mule Market for War Demands.

Columbia, Tenn., September 1—[Special.]—Here is the largest retail mule market in the South, and Columbia has been the mecca for the mule kings of America who are representing both the United States and England in placing huge contracts for this all-important asset to the artillery divisions, the mule. One large contract called for several hundred head, and was filled last week. Another was given the same firm this week.

The largest order ever placed in this territory has just been closed with a local firm, calling for 200 head of mules per day for Great Britain. This order will not conflict with Uncle Sam's demands, owing to a difference in qualifications that must be met by the offerings. The British order was placed in Columbia by two of the recognized mule kings of America, Ross Harrington and W. J. Howard of St. Louis. The immediate territory can by no means supply the order, and the States of Tennessee, Kentucky and Alabama will be drawn on for the supply. Two hundred mules per day for an indefinite period of time is estimated as the equivalent of \$35,000 per day, or considerably more than \$500,000 a month, aside from the enormous expense of feeding and other incidentals.

The advantage of corralling at a point situated in the midst of the agricultural belt of the South is that feed-stuffs may be had in superabundance from immediate territory, and feed-growing will yield large returns.

In peace times the local firm referred to does a million-dollar-a-year business, and with the present large contracts pressing, it may be seen that the business this year will reach enormous proportions. The mule-breeding industry will be considerably stimulated, and farmers have awakened to the value of breeding the best to the best, so that the future of the industry looks promising.

America's Relation to the World War

THE MANUFACTURERS RECORD has received from its subscribers so many letters of enthusiastic commendation of its editorial policy during the last three years in regard to the war, and so many urgent suggestions that some of the editorials of the last few months be put into pamphlet form for wide distribution, that it has now heeded these requests. Into a pamphlet entitled "America's Relation to the World War" we have gathered some of the editorials that have seemed to attract especial attention from our readers, in order that in this form a wider distribution may be given to them.

With a view to arousing our country to a realization of the facts which from time to time have been presented through our editorial columns, we believe that the widest possible distribution of this pamphlet will do good. In saying this we base it upon the enthusiastic ecomiums of many subscribers who have been unstinted in their praise of the views of the MANUFACTURERS RECORD on these great issues.

ANTHONY F. LUCAS
2300 Wyoming Avenue,
Washington, D. C.

I take pleasure to enclose herewith my humble check for one thousand pamphlets.

You know approximately where the nests of disloyal Americans keep themselves better than I do, not forgetting the group of "willful men in Congress." To these should be flaunted the flaming editorials, beside the disloyal Germans, who persist in calling themselves "German-Americans," who live in our midst, and prosper in wealth, safety and peace. I should like, however, a batch sent in bulk of, say 250, to distribute myself where it may do most good.

PERFECTION MATTRESS & SPRING CO.,
T. M. Jackson, President,
Birmingham, Ala.

I am very glad indeed that you have put into pamphlet form the articles that you have so ably written about the German situation. I approve every word you say, and to show you that I am appreciative of your efforts in this direction, I am asking you to send us fifty of the pamphlets. I will distribute them where I think they will do the most good.

W. H. MITCHELL,
Attorney-at-Law,
Florence, Ala.

In all of the current war literature I have found nothing more convincing or inspiring than the editorials which you have consistently put forth for the last three years. It is a pity that every American citizen has not had the opportunity to read them.

DEDMON, POTTER & PINNEY,
Attorneys and Counselors-at-Law,
First National Bank Building,
Fort Worth, Tex.

Permit us to say that we very greatly and genuinely appreciate the part you are playing in giving expression to the voice of democracy in the present world catastrophe and the efforts you are putting forth to hold up Germany in her true light to that portion of the world in which your magazine is so widely read.

FIRST NATIONAL BANK
A. M. Chreitzberg, President,
Spartanburg, S. C.

Please send us 100 of these pamphlets by mail, or however you prefer to send them, upon receipt of which we will send you the \$10. If we can use more, we would like to. Our people are waking up, but some of these we least expect need a lick right between the eyes in order to disengage their hands from grasping after the money profits and letting them see that this is a time when the individual must throw aside every possible outside interest and co-operate toward the one end of winning the war.

SUGAR-CANE BY-PRODUCTS CO., INC.,
A. C. Bernard, Manager,
New Iberia, La.

I was just thinking prior to seeing your announcement of writing to you suggesting that you incorporate those GENUINE TRUE-BLUE AMERICAN editorials in booklet form. Your announcement antecedes the suggestion.

Thank goodness, you are one paper that is not afraid to call a spade a spade. In this war those that are not for us are against us, and I want to assure you that you are striking a responsive chord in the hearts of all red-blooded Americans when you take the fearless position you have in "bunching" the barbarians who are responsible not only for the beginning of the war, but for the continuance of the most atrocious slaughter the world has ever known.

GOLDSBORO FRUIT & PRODUCE CO., INC.,
David M. Prince, President and Treasurer,
Goldsboro, N. C.

Enclosed please find card for one year's subscription. Wish we could tell you in words how timely and how much we appreciated your editorials in last week's issue. Would that they could have been read by every man in the United States! We are in great need of more men like you—men who see the true situation and have the courage and backbone to tell the truth, regardless where it hits. We sincerely trust you will keep this up and beat some common sense into some of our dummies.

Shall Our Nation Live or Perish?

WE should be glad to have every subscriber buy as many copies of this pamphlet as he can judiciously distribute to his friends and acquaintances. We believe that every man who does this will be contributing to the welfare of the nation by arousing our people to a realization of the dangers which confront us and the reasons why we must prepare to meet them. We will be pleased to receive from every subscriber an order for not less than ten copies, and from many of them who can afford to do so an order for a thousand or more. The price is 10 cents a copy, regardless of the number ordered, whether one or one thousand. The money must accompany the order.

R. K. STEWART & SON,
General Contractors,
South Boston, Va.

It is a great pity that the articles on the war which you are publishing every week are not reprinted in the daily papers. They are ably written and are a great educational factor in enlightening the people.

We believe that a great movement throughout the country such as you have commenced is essential, in order that the people may be told the facts. Do not hide the truth.

Let the villainies of Germany be told in their nakedness; it will drive the truth into the hearts and minds of the people. It is about time that a scaffold should be erected right in Washington. It is a good place to start public execution.

A. B. AYERST,
Pulp and Paper Mill Engineer,
Wilmington, Del.

I have no magazine that I enjoy reading as much as I do the Manufacturers Record, and the South, as well as the whole country, cannot but be benefited by the valuable information that the Manufacturers Record always publishes.

It is always refreshing to read your editorials, as they just teem with patriotism and should arouse every good American to his or her sense of duty.

FRED H. LEWIS,
Hibernia Building,
New Orleans, La.

I wish to congratulate your editor and your paper in the stand you have taken and the views expressed in regard to this country and Germany. They are my views exactly, especially in regard to the pro-German activities in the United States. Their activities are not very evident now, but I am sure they are working silently, and, later on, we will see the result to our sorrow.

KNOXVILLE BRICK CO.,
D. A. Carpenter, President,
115 Empire Building,
Knoxville, Tenn.

The writer has read with keenest interest and greatest pleasure your war articles and your articles on many other subjects. I like your style of stating things. If I think a man is a scoundrel, I like to tell him so.

I am eighty-one years old, but still retain my likes and dislikes, and hate a coward on the street or in the pulpit.

JAMES GOULD,
Road, Drainage, Municipal Bonds, County
Warrants,
Pine Bluff, Ark.

I do not think there is a paper in the world that prints as much valuable news as does the Manufacturers Record at the price. I think your articles upon the national questions are of the strongest and the soundest of any published, and if the heads of this nation will lay aside politics and take the advice of the Manufacturers Record on some of these subjects, it would be worth many billions of dollars to the United States.

SOUTHERN NOVELTY CO.,
C. W. Coker, Treasurer,
Hartsville, S. C.

Please send us by parcel post at your earliest convenience one hundred copies of your pamphlet covering certain war editorials of the Manufacturers Record. We wish to distribute these among some of our friends.

Please allow us to take this opportunity to thank you for your scholarly and convincing editorials. If the Manufacturers Record could reach the masses, a large part of the educational work of our preparedness committees would have been made unnecessary.

MANUFACTURERS RECORD - - BALTIMORE, MD.

HEAVY INCREASE IN COAL MINING COST IN ALABAMA.

Figures to Be Presented to Government Authorities.

[Special Dispatch to Manufacturers Record.]

Birmingham, Ala., September 4.

Statistics as to the cost of production of coal have been prepared, and will be presented Dr. Garfield in Washington Thursday, and a number of companies will show that in the last few years cost has increased greatly. Mining wages have increased in the last year and a half not less than 25 to 33 per cent. Following average is obtained by figures from sheets of one of new and most modernly equipped mining companies of district, whose production prices are perhaps lower. Payrolls, wages and decreased efficiency show for 1914 96 cents per ton; the next year, low ebb in industry, 92 cents; 1916, 97½ cents, and for six months this year, \$1.17, and for July, \$1.39. Mine supplies cost in 1914 4½ cents to ton; in 1916, 5½ cents, and for six months this year, 8.1 cents, and for July, 13.9 cents. Outside labor in 1914, 5.8 cents, and for six months this year, 11.2 cents, and for July, 11.2 cents. General office expenses, sales, etc., in 1914 were 8.2 cents, and for six months this year, 7.7 cents, and for July, 8.2 cents per ton. Fixed charges (with decreased output the cause), 1914, 34 cents, and six months this year, 39.6 cents, and July, 42 cents. In 1914 aggregate cost production of \$1,618; in 1915, \$1,60, and in 1916, \$1,698, and for six months this year, \$2,004, and for July, over \$2,40 per ton.

This company paid in October last year 62½ cents per ton mining, and at present 82½ cents. Other companies show greater cost of production. None cheaper this year than three or five years ago.

Uncertainties in Coal, Iron and Labor in Birmingham District.

Birmingham, Ala., September 4—[Special.]—The Southern iron market is weak, but prices of \$50 for No. 2 foundry and basic, this year's delivery, and \$48 next year, are still being held.

The possibility of Government control, fixing new prices, may interfere with the business being worked on and labor troubles in the district are giving concern. The iron men look at the prices fixed for coal f. o. b. mines as a criterion as to the attitude of the Government, and there is no telling how drastic may be the plans as to iron and steel. On top of this there is some consideration being given as to the war-profits tax. The coal production in this district is far from being normal, dissatisfaction among the rank and file of the union organization on the settlement of the contentions between operators and union causing curtailment of output to a considerable degree, the coke supply being reduced and other troubles being experienced. The iron make is hesitating some, and there is no telling what the next week will bring forth. A convention will be held by the United Mine Workers of America this week (Wednesday), and it is not impossible that the men in the ranks will jump the traces of the leaders and take charge and order a cessation of operations in order to attempt to gain recognition by the operators. This one thing, as well as others, has been opposed by the operators steadfastly, and there is reiteration that no steps will be taken that will smack in the least of recognition.

While the railroad car situation is greatly improved over what it was a few months ago, there are reports of delays in deliveries. Consumers are asking for the iron they ordered months ago. The buying is still slack, but this can be accounted definitely in the expectations on control by the Government. A few sales are being made and early delivery being asked for, in the main between now and the end of the first quarter of the coming year. Despite denials again, there appears to be some embargoes in the Northern shipments.

The Trussville furnace of the Birmingham Trussville

Iron Co. is ready for the torch, but there will be some delay. John H. Adams, general manager, announces that until labor and other troubles are more settled than they are at present he would hardly be ready to begin operations at this furnace. This furnace will have a daily output of 200 tons when once going good.

Coke supplies are not up to standard by any means in this section. The coal production, as stated, wavering, caused a similar condition in the coke-make. The production at best is none too great for the home demand and the contracts in hand and the under-normal condition for only a few days is felt. The coke manufacturers will not discuss their market at all and are somewhat disturbed over the labor situation. The Yolande, the Imperial, the Alabama, the New Castle and Sloss-Sheffield Steel & Iron Companies have had more or less trouble at their mines recently, while the Republic, Pratt Consolidated and others are not altogether satisfied with the situation. It is announced by leaders of the union that, despite their efforts to pacify the men, many of them are so incensed that they are either leaving the district for Northern and Western coal fields or are preparing for the move. No quotations are being made by coke producers, and the statement is made that with the labor troubles and heavy contracts in hand, there will be no offers of the product for at least two months yet. Fifteen dollars per ton, foundry coke, immediate delivery, appears to be no inducement for business.

Foundries and machine shops, cast-iron pipe plants, structural iron and steel works, car wheel works and other industries in the Birmingham district are working to the fullest capacities. Government contracts, of which but little is to be given out, predominate in the foundry business. More labor is now being employed in the foundries in this district than ever before.

Boring for ore, deep mining, in what is known as Shad Valley, across Red Mountain, Birmingham, brought to light recently evidence of gas and oil. The development is under the management of T. H. Aldrich and associates, and announcement is made that the work will be pressed in the hope that there will be extensive discoveries. The operations are just five miles from the city in what is known as Cahaba coal fields, though ore is being hunted.

Slight improvement is noted in the old material or scrap iron and steel market in the Birmingham district and several quotations are stronger. Heavy melting steel, one of the popular products, has advanced some, while stove plate is also showing a gain. Some inquiries have been made from other sections of the country and explanation asked as to difference in quotations in the East, North and South. Scrap dealers have plenty of stock on hand and are meeting any and all demands for the product. Even a brass shipment was made by one of the scrap dealers to the Cleveland territory the past week, a good price being paid. Consumers of heavy melting steel are again asking for prompt deliveries on the product. A better feeling is in evidence, though it is not claimed that there has been complete recovery as yet.

Quotations for pig-iron and old material, scrap iron and steel, are given as follows in the Southern territory:

PIG-IRON.

No. 1 foundry and soft.....	\$48.50—\$50.00
No. 2 foundry and soft.....	48.00—50.00
No. 3 foundry.....	47.50—48.00
No. 4 foundry.....	47.00—47.50
Gray forge.....	46.00—46.50
Charcoal.....	55.00—60.00
Basic.....	48.00—50.00

OLD MATERIAL.

Old steel axles.....	\$32.00—\$33.00
Old steel rails.....	24.00—25.00
No. 1 wrought.....	26.00—27.00
Heavy melting steel.....	20.00—20.50
No. 1 machinery.....	24.00—25.00
Car wheels.....	23.00—24.00
Tramcar wheels.....	20.00—21.00
Stove plate.....	17.00—18.00
Shop turnings.....	11.00—12.00

Collieries Company With \$500,000 Capital.

Coal land in Sherman district of Boone county, West Virginia, will be developed by the Mordue Collieries Co. of Charleston, which has been incorporated with a capital of \$500,000. This company will develop 3600 acres of coal land in Boone county, West Virginia. Its officers are: Thomas N. Mordue of Chicago, president; Charles L. Allen of Beckley, W. Va., vice-president and general manager; Robert S. Spilman of Charleston, W. Va., secretary; E. M. Merrill of Beckley, treasurer.

RAILROADS

[A complete record of all new railroad building in the South will be found in the Construction Department.]

Southern Lines Get Needed Cars.

During the last 10 days of August more than 7000 additional empty cars were ordered into the South and Southwest to protect the movement of grain and food products and to facilitate the transportation of lumber for the cantonments and shipyards.

The orders which the Commission on Car Service of the Railroads' War Board have issued since the policy was adopted of moving empty cars from one railroad to another, regardless of ownership, in order to meet the abnormal freight conditions that the war has produced, have resulted in 113,420 cars being distributed where they were most needed. All of this movement has taken place since May 1.

As a result, despite the most terrific pressure ever imposed upon the railroads of the country, millions of tons of Government supplies, including lumber, munitions and materials for Government construction, have been transported by the carriers without a hitch, and without interfering to any extent with regular commercial traffic, which, too, has been increased to vast proportions by the war.

Of the latest cars ordered distributed by the Railroads' War Board, 2450 cars are to be placed in the grain-producing country. Four thousand five hundred and thirty-seven additional cars have been sent into the lumber States of the South, and 400 others sent to one of the Atlantic coast lines to protect the unexpected increase in general freight traffic.

The roads to which cars have been consigned include the Gulf Coast lines, 200 cars; Central of Georgia, 100; Louisville & Nashville, 500; Mobile & Ohio, 350; Illinois Central, 350; Louisiana Railway & Navigation Co., 12; Gulf, Florida & Alabama, 275; Nashville, Chattanooga & St. Louis, 300; Georgia & Florida, 75; Southern, 500; Atlantic Coast Line, 1250; Atlanta, Birmingham & Atlantic, 75; Seaboard Air Line, 400; Charleston & Western Carolina, 300.

Mr. Baumgartner's New Position.

J. Hampton Baumgartner, who has been publicity representative of the Baltimore & Ohio Railroad Co. for the last six years, has resigned to become assistant to President S. Davies Warfield of the National Association of Owners of Railroad Securities. Although Mr. Baumgartner assumed his new duties formally on September 1, he will not actually leave the service of the railroad until September 15, as he will employ the intervening period in clearing up work in his office there and in arranging for the coming of his successor, who has not yet been announced. In his new position, which will be of widespread importance because of the success which has followed the organization of the National Association of Owners of Railroad Securities, he will find a broad field for his activities, one in which his extensive knowledge of transportation affairs will be of particular advantage. He is 30 years of age, and a native of Westminster, Md. Mr. Warfield, the head of this new organization, is president of the Continental Trust Co. of Baltimore, and he is also chairman of the board of directors of the Seaboard Air Line.

A Motor Car Which Uses Coal Oil.

The Nashville, Chattanooga & St. Louis Railway has obtained a new type of motor car which burns coal oil instead of gasoline as does the familiar type of gasoline-electric car. It was built by the Electric Car and Locomotive Corporation, 165 Broadway, New York, and it is claimed that it will operate at a cost which is one-third to one-fifth of the cost of operating with steam. It has a 150 horse-power oil engine connected to an electric generator in connection with a storage battery, so that a large reserve of power may be stored when "peak loads," as the electrical experts say, require it. The car was invented by Ralph H. Beach.

It is announced that this car will be run between

Nashville and Lebanon, Tenn., 32 miles, and that tests have shown that a gallon of coal oil will run it $2\frac{1}{2}$ miles and a gallon of lubricating oil will last for 50 miles.

It will burn fuel oil if necessary. No carburetors are required, the oil being heated into gas before reaching the engine. It is a good-sized railroad car, 50 feet long with center entrance, and passenger compartments forward and back. Forward there is also a baggage compartment and the engine-room, which is in the very front of the vehicle, the general appearance of which resembles that of other railroad passenger motor cars. It can run 45 miles per hour. It is heated by hot-water from the jackets around the engine, but this water can be by-passed when it is not required for heating. Radiators are on the roof. The car will carry 75 passengers.

New Equipment.

Chesapeake & Ohio Railway is receiving 2000 steel coal cars, of which 1000 come from the Standard Steel Car Co.'s plant at Hammond, Ind.; 500 from the Pressed Steel Car Co., McKee's Rocks, Pa., and 500 from the Ralston Steel Car Co., Columbus, O. They are of 55 tons capacity.

Charleston (S. C.) Consolidated Railway & Lighting Co. has ordered 6 double-truck cars, which will be completed and ready for use in about a month.

Norfolk & Western Railway has ordered 2000 wooden construction coal cars from the Roanoke machine shops. They will be of $57\frac{1}{2}$ tons capacity. Wood, it is stated, was specified for construction on account of the difficulty of obtaining early deliveries of steel.

Virginian Railway has ordered 1000 steel hopper cars from the Pressed Steel Car Co., and will soon be getting deliveries.

Opening Up a Big Farming Country.

Construction of the Midland & Northwestern Railway, now building from Midland to Seminole, Tex., 65 miles, is proceeding rapidly, according to a recent report from Midland, where the headquarters of the road are situated. Tracklaying has been advanced from Midland as far northwest as Florey, 48 miles, and it is said that the completion of the rest of the road to Seminole will soon be accomplished. Train service is to be established as soon as possible as far as the track is finished.

This road traverses what is known as the South plains country, a great corn-growing section, also extensively devoted to the raising of hogs. Near the town of Fasken about 60,000 acres of land in a large ranch are being opened up to settlers, and a still further enlargement of agricultural activity is assured. It is predicted that the railroad will quickly cause the settlement of the country and its full development: T. J. O'Donnell is president.

Customers as Investors in Public Utilities.

"Rational Public Ownership" is the name of a pamphlet issued by the publicity department of H. M. Byllesby & Co., Chicago, embodying a reprint of a lecture delivered by William H. Hodge, manager of the department, at Harvard University concerning the customer as a financial partner in a public utility. This describes a movement in which the Byllesby companies have prominently participated and which aims to place the public and the companies in closer harmony. The plan is already in effect at more than half of these companies, and is being extended as rapidly as possible to all of them. The idea is to place securities of the companies among the people who use their output, which has been done with gratifying results.

Sugar Plantation Railroad.

Napoleonville, La., September 1—[Special.]—The Godechaux Company of New Orleans, which owns the Elm Hall sugar refinery and plantation near Napoleonville, is constructing a standard-gauge railroad about three miles long, equipped with its own rolling stock, for the purpose of connecting the adjacent sugar-cane plantations on both the east and west banks of Bayou Lafourche with the big refinery. The company is build-

ing a steel drawbridge across Bayou Lafourche for the railroad. The construction of this line will materially aid in the rapid handling of the sugar-cane crop and also reduce the car shortage in this territory considerably.

Map of All Military Stations.

The Union Pacific system has issued a military map of the United States showing the locations and names of all of the camps where troops are assembled, including regulars, members of the national guard and the reserves, besides aero training stations, naval and marine stations, etc. Accompanying the map is a list of all the stations and their addresses. The map is printed in four colors. Copies may be obtained from the passenger department of the railroad company.

Building a Short Connection.

The Gauley & Eastern Railway, a subsidiary of the Kanawha & Michigan Railway, is building a line slightly more than $5\frac{1}{2}$ miles long from Gauley Bridge to Belva, W. Va., to join two parts of the parent road. The new construction follows the bank of the Gauley River, and includes the building of three timber trestles 20 feet high and 130 feet long. It will connect the line which runs from Charleston to Gauley with the shore line (four miles long) running from Belva to Little Elk.

Officials Appointed.

A report from St. Louis says that James Russell has been appointed general manager of the St. Louis Southwestern Railway to succeed W. T. Tyler, who has another position in the company's service.

C. P. Stembel has been appointed general superintendent of the Virginian Railway, with headquarters at Norfolk.

Seaboard Issues \$4,000,000 Notes.

It is announced in New York that the Seaboard Air Line has arranged to sell \$4,000,000 of 6 per cent. two-year notes to a syndicate composed of the National City Co., the Guaranty Trust Co. and others to take care of floating debt and also current improvement and extension work.

Textile Notes.

Rev. Thomas De Pamphilis, 505 Forest avenue, Kansas City, Mo., will organize a company for silk producing and manufacturing at St. Augustine, Fla. The American Silk Producing & Manufacturing Co. was recently mentioned as interested in this enterprise.

The Winchester (Va.) Woolen Mills has been incorporated with \$50,000 capital; George Dunham, president; C. D. Grim, secretary.

L. G. Neal, W. B. Reeves and O. Shepard have incorporated the Royal Cotton Products Co., Atlanta, Ga., with a capital of \$100,000.

W. R. Newton, Decatur Elmore and C. J. Yelton of Lawndale, N. C., will establish a hosiery knitting mill. They will begin with an installation of 20 knitting machines in a frame building to be erected by C. B. Yelton.

Oklahoma Lead and Zinc Development.

Lead and zinc properties in Oklahoma will be developed by the Muskogee Lead & Zinc Mining Co., which has been incorporated with a capitalization of \$250,000. L. W. Thompson, Jay Brotherton and F. Miller, all of Muskogee, Okla., will organize this enterprise.

To Mine Texas Copper Ore.

Copper-ore properties in Texas will be developed by the Knox County Copper Co. of Santa Anna, Tex. This new enterprise has been incorporated with a capitalization of \$50,000 by H. W. Turner, C. M. Pieratt and S. J. Pieratt, who will soon effect organization and determine development details.

Good Roads and Streets

SOUTHERN HIGHWAY ACTIVITIES.

Details in regard to road and street undertakings and bond issues, briefly mentioned below, are given under the proper headings in our "Construction Department" and "New Securities," published elsewhere in this issue.

Bonds Voted.

High Point, N. C.—City voted \$99,000 bonds for street improvements.

Louisburg, N. C.—City voted \$135,000 bonds for street improvements.

Oakville, W. Va.—Live Oak County Road District issued \$70,000 bonds for road construction.

Smithfield, N. C.—City will issue \$70,000 bonds for street improvements.

Bonds to Be Voted.

Anadarko, Okla.—Caddo county will vote on issuing \$25,000 bonds for road and bridge construction.

Bay Minette, Ala.—Baldwin county votes September 17 on issuing \$75,000 bonds for road and bridge construction.

Galloway, Mo.—Greene county votes September 12 on issuing \$10,000 bonds for road improvements.

Tavares, Fla.—Lake county votes September 25 on issuing \$500,000 bonds for road construction.

Contracts Awarded.

Abbeville, Ala.—Henry county awarded contract for grading, surfacing and draining six miles of highway.

Amite, La.—Tangipahoa parish awarded \$24,000 contract for constructing gravel roads.

Argenta, Ark.—City awarded contract for nine blocks of street paving.

Baltimore, Md.—City awarded contracts (two) for sheet asphalt and vitrified brick paving to cost \$26,218.

Louisville, Ky.—City awarded \$3300 contract for constructing concrete sidewalks.

Nashville, Ark.—City awarded \$10,000 contract for two miles of street paving.

Vernon, Tex.—City awarded \$30,000 contract for asphaltic concrete paving.

Contracts to Be Awarded.

Charleston, W. Va.—City receives bids until September 21 for 27,000 square yards of paving, with 17,000 feet of curb and gutter.

Durham, N. C.—City receives bids until September 10 for 50,000 square yards of paving and 25,000 linear feet of curbing with gutters.

Parkersburg, W. Va.—City receives bids until September 14 for 18,438 square yards of vitrified brick paving construction with concrete curbing.

Pittsburg, Tex.—Camp county invites bids until September 14 for 2100 linear feet of concrete road construction.

Shreveport, La.—City receives bids until September 11 for constructing 12,000 square feet of additional sidewalks at State Fair site.

St. Cloud, Fla.—City invites bids until September 14 for 18,000 square yards of paving and 15,000 linear feet of curbing.

Texas Studying the Economy of Permanent Highways.

Galveston, Tex., August 27—[Special.]—Considerable interest is being developed in Texas over the question of constructing highways of lasting materials rather than the ordinary macadam highway, which is expensive to maintain. It has been pointed out that the cost of maintenance for cheaply constructed roads will mount to an enormous figure as the State highway system is expanded, and in the course of time may make the further extension of State roads prohibitive in many counties.

The State Highway Commission has only been in existence a short while, however, and as yet has made no

announcement as to its policy regarding permanent roads. Nevertheless, it is confidently believed that a measure embodying the principles of permanent road construction for State highways will eventually come before the Legislature.

Bearing upon this question, Edward H. Lange of San Antonio, a member of the State Legislature from Bexar county, said:

"The State of Texas is embarking on a highway program of the first magnitude, and it would be well for us to profit by the experience of other States, at least to the extent of building permanent roadways. In the long run it does not pay to get mileage at the expense of future maintenance, as it would to build for permanence. If properly constructed, we can make our highways good for 20 to 40 years.

"Other States, such as New York and California, have learned that what is counted as expensive roadway may be the cheapest in the long run. They have adopted concrete as the best material.

"The argument that the present cost of cement makes the cost of this character of roadway prohibitive would be final if prevailing prices of cement were taken as a criterion. The current price in San Antonio is \$3 a barrel. I am convinced, however, that the State could obtain a much lower price. State pride, I believe, would result in the millowners making a price on the basis of cost plus a fair per cent. of profit.

"Should this fail, there is nothing to prevent the State from erecting and operating its own mills. The essential ingredients of cement can be found in many localities over the State, and, if necessary, prison labor could be used.

"Several years ago, I am informed, the cost of making cement was as low as 75 cents per barrel. The cost of labor, materials and supplies have advanced, it is true, but modern machinery and improved methods should have offset this feature. It is quite probable, in the event the State produced its own cement, a special low rate could be obtained from the railroads on shipments to points desiring cement for road building.

"The results which will ensue if our highways are not built of some durable material can readily be foreseen. Maintenance will in a few years more than equal the first cost, and we will find ourselves confronted with a continuously growing expense account."

Seacoast Route of Dixie Highway Progressing.

Brunswick, Ga., September 1—[Special.]—At a meeting held in Brunswick today, attended by President M. M. Allison and the two Georgia commissioners of the Dixie Highway Association, Clark Howell of Atlanta and W. T. Anderson of Macon, and by a large number of representatives of the counties and cities from Savannah to Jacksonville, along the Seacoast Route of the Dixie Highway, it developed that, while all of the conditions under which the Seacoast Route was selected and designated as a branch of the Dixie Highway had not yet been fully complied with, all of them are moving fast toward consummation.

Camden county has a bond issue of \$20,000 available to build an automobile bridge over the Satilla River at Woodbine, which will remove the greatest obstacle on the Seacoast Route.

Glynn county reported that as soon as defects in the present Georgia law regulating the validation of bond issues are corrected, \$250,000 in bonds will be provided for building permanent roads of brick or concrete.

McIntosh county reported having spent \$20,000 last year on the Seacoast Route, and that an issue of \$25,000 of bonds will be spent immediately on putting the highway in still better condition.

Production of the thornless cactus as a food for livestock in Louisiana has been started by Mrs. J. E. Le Blanc, widow of the late Senator Joseph E. Le Blanc, on her farm near Paincourtville, La. Mrs. Le Blanc obtained a supply of thornless cactus from the West for experimental purposes, and when she found the experiment successful she began planting on a large scale. The cactus is fed raw to livestock, and is eaten ravenously by them. It is especially valuable as a food for milch cows. The experiments are said to have demonstrated that the soil and climate of Louisiana produce a better grade of cactus than that grown in the West.

LUMBER

Walnut in Demand for Gunstocks and Furniture.

Louisville, Ky., September 5—[Special.]—A large Government order has been placed with the Wood-Mosaic Co. of Highland Park, Ky., and New Albany, Ind., and operating sawmills and branches in scattered sections of the country, for a large quantity of walnut gunstocks, to be cut out in the rough and supplied for manufacturing arms for the United States Army. To supply the material for the large contract is a big job in itself, and the company is advertising for 2500 cars of walnut logs, calling attention to the fact that the company is doing the work, and it is up to the timber merchants to supply the material. The logs will be shipped to the plants at Highland Park and New Albany, where they will be sawn out according to the pattern markings.

There has been a big demand for gunstocks, and experiments have been made in making such stocks from red gum as well as mahogany, but the old standard walnut stock is still getting the preference.

Black walnut lumber is also coming back into favor again for furniture and cabinet work. About three years ago the American Walnut Association was organized by manufacturers of the Middle West, manufacturers located at Louisville, Memphis, St. Louis, Chicago and Kansas City principally, and an effort was made to again popularize a wood that was formerly a leader. Much advertising was done, with the result being that walnut has come into notice again.

Not only have the furniture manufacturers taken to this wood, but the piano, talking machine and other manufacturers of musical instruments are demanding walnut, some of this demand being due to elimination of imported Circassian walnut.

To Meet Government Needs for Southern Hardwoods.

Memphis, Tenn., August 31—[Special.]—The Southern Hardwood Emergency Bureau will prepare at once to facilitate the purchase and delivery of hardwood lumber required by the Government for national defense.

According to information received here, the Government is in the market for about 7,500,000 feet of quarter-sawed oak for the manufacture of airplane propeller blades. Heretofore these blades have been made largely of mahogany and walnut.

In addition to this single item, the Government is in the market for much hardwood stock for army wagons, ambulances, tent poles, pegs, boxes, crates, etc.

The bureau has opened headquarters in the Union Trust Building at Cincinnati, O. The clerical force necessary to handle the work of tabulating stocks, producing capacity, timber resources, distributing orders, expediting shipments, etc., has been employed.

The personnel of the bureau consists of M. W. Stark, chairman, St. Albans, W. Va.; L. P. Du Bois, Charleston, Miss.; F. W. Mowbray, Cincinnati, O.; H. B. Weiss, Memphis, Tenn.; B. B. Burns, Huntington, W. Va.; R. L. Jurden, Memphis, Tenn.

Protesting Against Eight-Hour Day for Lumber Mills.

New Orleans, La., August 31—[Special.]—Advices received at the offices of the Southern Pine Association indicate that protests from the lumber industry are pouring in on Senators and Congressmen at Washington against the bill recently introduced in the Senate by Senator Poindexter, providing for an eight-hour day for mills and woodworking establishments. Confronted with extraordinary difficulties already, due to the heavy requirements of the Government, labor troubles resulting from the negro exodus to the North and the drafting of many workmen into the new national army, lumber manufacturers express genuine alarm at the possibility of the revolutionary change sought to be brought about by Senator Poindexter.

"The lumber industry is working under a severe strain," says a recent circular issued to subscribers to the Southern Pine Association. "Extraordinary de-

mands are being made upon the sawmills by the United States Government to furnish material required in the building of ships and cantonments. Notwithstanding this unusual condition, operations are now only about 80 per cent. of normal, owing to the extreme shortage of labor and to a large extent its inefficiency. This situation will become more acute as men are drafted from lumber communities into the national army.

"The lumber industry has pledged its every facility to the support of the Government in its gigantic undertaking, and even under present conditions is having the greatest difficulty in doing all that is required of it. Therefore, it is to the interest of all to see that no further hardships that will impair its efficiency are placed upon it."

Louisiana Building Many Potato Drykilns.

New Orleans, La., August 28—[Special.]—Seventy-five potato drykilns will be completed in Louisiana by the end of the year, according to announcement made by T. H. Holloway, who has charge of the construction of these kilns in the State under the supervision of the State Council of Defense. A lumber company will build six of these kilns.

Mr. Holloway says that the erection of these kilns will result in a great saving both to the business firms erecting them and to the farmer, because the produce merchant, assured of being able to hold the potatoes without loss beyond the flooded season of their production, can afford to offer better prices because he is assured of a better market later. The produce merchant can get from 25 to 50 cents more for kiln-dried potatoes, and the farmer profits accordingly, Mr. Holloway affirms. The kilns take from 6 to 10 per cent. of the moisture from the potato to close its pores.

Plans for the construction of kilns may be obtained free of charge by writing the United States Department of Agriculture, Washington, for farmers' bulletin No. 548, entitled "Storing and Marketing Sweet Potatoes."

\$15,000,000 for Army Camp Hospitals.

Washington, D. C., August 31—[Special.]—The medical department of the army has prepared for the construction of 32 hospitals at national army and national guard camps, at a total cost of nearly \$15,000,000. Each camp will require nearly 4,000,000 feet of lumber.

One type is being used in all the hospital construction work done by the army. All the buildings are 24 feet wide, the length varying to meet the needs. The wards are usually 157 feet long, which is the size needed for 32 beds. There will be a diet kitchen for each ward, a porch on one side and end of each ward, and a corridor connecting with the buildings on either side which will be covered in the case of the Northern cantonments.

About 70 buildings will be comprised in each cantonment hospital on the 1000-bed basis. In some cases two wards are joined, thus reducing the actual number of separate buildings, but the number of buildings will reach about 70, counting each ward as a building.

Arkansas Banks Prosperous.

Little Rock, Ark., August 29—[Special.]—The total deposits of the State banks of Arkansas have increased in one year from \$49,680,396.37 on June 30, 1916, to \$72,480,322.77 on June 20, 1917, and the total resources of the 388 reporting banks have increased in the same period from \$70,989,135.86 to \$94,005,802.17. These institutions were never in a more prosperous condition, according to the last official statement of the State Bank Commissioner, just completed up to the close of business, June 20, 1917.

Offers British Guinea Woods.

A. H. ROBERTS, 9 Regent Street, Georgetown, Demerara, British Guiana.

I do not wish so much to represent American manufacturers as to develop my export business with American capitalized concerns. And just at this time my attention is most engaged in providing for export of low nuts and local wood, such as crabwood, mora, greenheart and wallaba.

MECHANICAL

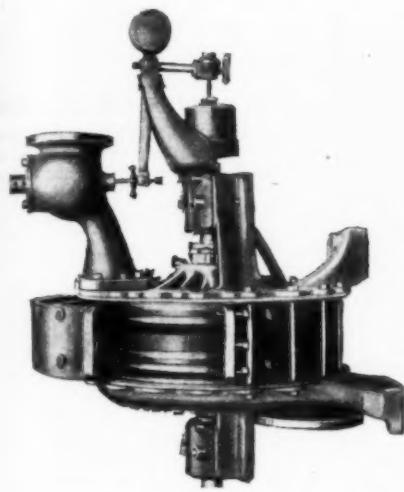
Illustrations and descriptions having news value pertaining to developments in machinery, mechanical devices and inventions will be considered for use in this department.

Curtis Steam Turbine for Fans, Blowers and Pumps.

A Curtis steam turbine, in a wide variety of capacities to drive fans, blowers and pumps for boiler feeding and circulating systems has been developed by the General Electric Co., Schenectady, N. Y.

It is called the Type L, and is of the impulse type. The number of stages and rows of buckets vary with the capacity. The principles used and mechanical practice evident in the construction are the result of the vast experience of the manufacturers in producing turbines for practically every class of service.

A split-wheel casing is used to permit ready inspection of the buckets, which are of bronze securely dovetailed into the rim of the wheel. The exhaust steam is



TYPE L CURTIS STEAM TURBINE.

free from oil, and is well suited for heating feed water.

Speed regulation is close and reliable, and the speed may be changed by hand-wheel adjustment while the turbine is in operation. A constant running speed is maintained by a simple and powerful speed governor mounted directly on the shaft and controlling a double-balanced piston valve-type throttle.

The main shaft carrying the turbine and governor runs on babbit bearings with renewable linings, and is fitted with readily accessible packing glands.

Three feet support the rigid frame of the turbine to insure the bearings always being in line. The wheel casing is neatly lagged with planished iron.

Modern Limestone Products Plant in Eastern Tennessee.

During the first seven months of 1917 the American Ballast Co. of Knoxville, Tenn., which has one of the largest plants in the South making ground limestone, has sold three times as much of its product as it did in the same period last year, and states that its shipments

during the balance of the year will be limited only by the car supply.

The company's plant, an illustration of which is given, is located at Mascot, Tenn., 13 miles east of Knoxville on the Southern Railway. It has a capacity of 500 tons of ground limestone daily, and this is now being doubled. The rapid increase in the use of ground limestone by the farmers of the South is due to the patriotic appeals to them to increase their crops and to the persistent campaign of education as to the value of ground limestone as a fertilizer, carried on by national, State and quasi-public corporations.

The American Ballast Co., which has a thoroughly modern plant, is selling its "Mascot" ground limestone mostly in the Carolinas, Tennessee and Georgia. It sells its product direct to farmers, and while its salesmen are soil experts, it recommends that farmers secure advice from county agricultural agents, maintained in all of the States named, as to the requirements of their soil.

This company also has a large production of crushed stone, handling 3000 to 4000 tons daily. This is sold for concrete, ballast, asphaltic concrete, roofing gravel, going

have a continual and substantial growth in the sale of this filler.

The home office of the company is at Knoxville, Tenn., with Thomas McCroskey as general manager.

Industrial Truck Hauls Building Material.

When the hauling of bulky, loose materials is considered, one usually thinks of three-yard dump wagons or big five-ton motor trucks, but the picture herewith shows a rig recently placed on the market which, because of its extremely small dimensions, together with its simplicity and speed of operation, has made a decided hit with many industrial concerns and also with contractors.

The motive unit is an electric-driven industrial truck of two tons capacity, similar to those commonly used in warehouses and at railroad stations for hauling trunks, boxes, miscellaneous supplies and heavy materials. On the truck is mounted a Lee side-dumping hopper of 1½ yards capacity, and a feature of this patented machine,



TRUCK DUMPING LOAD AT NEW BUILDING.

all over the South as far as Tampa and Miami, Fla. The latest addition to its line is limestone dust, which is being used for an asphalt filler, meeting not only the physical requirements, but, according to the report of Dow & Smith, chemical engineers, New York city, it shows passing 200 mesh, 84.5 per cent.; passing 100 mesh, 14.5 per cent.; passing 80 mesh, 1 per cent. Solubility in hydrochloric acid was 89.35 per cent., mostly carbonate of lime. Dow & Smith further said: "This is an absorbent limestone dust very finely ground, and one of the best limestone dusts we have examined for asphalt filler."

Owing to the steady increase in the use of asphaltic surfaced roadways and streets, the company expects to

which differentiates it from the ordinary car, is that the load is thrown out several feet away from the truck, as shown in the illustration.

The dimensions of the complete machine over all are length 8 feet, width 4 feet, height 4 feet. Hoppers dumping in a like manner off the end of the truck are also manufactured. Both outfits are sold by the Buda Company, Railway Exchange Building, Chicago.

For Italian Demands.

FRATELLI ARNOLDI, 52 via B. Eustachi, Milan, Italy.

We are prepared to represent American manufacturers and other exporters.



GENERAL VIEW OF LIMESTONE PRODUCTS PLANT, AMERICAN BALLAST COMPANY'S PLANT, AT MASCOT, TENN.

Construction Department

IN ORDER TO FOLLOW UP

Properly the Construction Department items, please bear in mind the following statements:

EXPLANATORY

The MANUFACTURERS RECORD seeks to verify the items reported in its Construction Department by full investigation. It is often impossible to do this before the item must be printed or else lose its value as news, and in some items it is found advisable to make statements as "reported" or "rumored," and not as positive information. If our readers will note these points they will see the necessity of the discrimination. We are always glad to have our attention called to errors that may occur.

HOW TO ADDRESS

The name of one or more incorporators of a newly incorporated enterprise should always be written on letter addressed to the official headquarters or to the town of the parties sought, as may be shown in the item. Sometimes a communication merely addressed in the corporate or official name of a newly established company or enterprise cannot be delivered by the postmaster. By following these general directions the post-office will generally be enabled to deliver your mail promptly, although it is inevitable that some failure by the postal authorities to deliver mail to new concerns will occur, as our reports are often published before new companies are known and before they have any established office for the receipt of mail.

WRITE PERSONAL LETTERS

In communicating with individuals and firms reported in these columns a letter written specifically about the matter reported will receive better and quicker attention than a circular. In most instances a return postal card or addressed and stamped envelope should be enclosed with letter.

In correspondence relating to information published in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

DAILY BULLETIN

The Daily Bulletin of the Manufacturers Record is published every business day in order to give the earliest possible news about new industrial, commercial, building, railroad and financial enterprises organized in the South and Southwest. It is invaluable to manufacturers, contractors, engineers and all others who want to get in touch at the earliest moment with new undertakings, or the enlargement of established enterprises. The subscription price is \$25 per year.

All advertising contracts in the Manufacturers Record for three months or longer include a subscription to the Daily Bulletin for the contract period, as well as a subscription to the Manufacturers Record.

AIRPLANE PLANTS, STATIONS, ETC.

Ky., Louisville.—Airplanes.—R. S. Hill Co., organ manufacturers, 4460 Louisville Ave., contemplates adding manufacturing of airplanes.

Tex., Wichita Falls.—Government let contract Gilsonite Construction Co. of St. Louis and Dallas to build aviation camp.

BRIDGES, CULVERTS, VIADUCTS

Ala., Bay Minette.—Baldwin County Commissioners ordered vote Sept. 17 on issuing \$75,000 bonds for constructing bridges and roads.

Ark., Index.—Red River Bridge Dist. Commissioners, Texarkana, Ark., adopted plans and specifications by Harrington, Howard & Ash, Engrs., Kansas City, Mo., for construction bridge across Red River, connecting Little River and Miller counties; steel construction; 1890 ft. long; roadway 18 ft. wide; 4 spans 200 ft. long, 2 spans 160 ft. long and 500 ft. reinforced concrete trestle; balance will be embankment; vertical lift span providing for navigation; issuing \$200,000 bonds. (Lately noted.)

Fla., Arcadia.—De Soto County Commsrs. ordered election Sept. 15 on issuing \$20,000 time warrants for constructing bridges and approaches.

Fla., Pensacola.—Escambia County Commissioners, J. Geo. White, Chrmn., ask for plans and estimates, to be considered at meeting Sept. 11, for construction of bridges across Bayou Chico, Bayou Texar, Pine Barren and Eleven Mile Creek. Noted in July. (See Machinery Wanted—Bridge Plans.)

Okla., Anadarko.—Caddo County Commsrs. will order election on issuing \$25,000 bridge and road bonds.

S. C., Camden.—Kershaw County Commsrs. let contract Austin Bros. of Dallas, Tex., at \$92,000 to construct steel bridge with concrete piers across Wateree River, near mouth of Twenty-five Mile Creek; 800 ft. of creosoted timber trestle work for approach on east side and 1425 ft. on west side; Frank

& Pinner, Consbt. Engr., Norfolk, Va. (Lately noted inviting bids.)

Va., Evington.—Campbell County will construct steel bridge 70 ft. long over Buffalo Creek, about 3 mi. from Evington; bids at Clerk's office, Rustburg, Va., until Sept. 17; G. P. Coleman, State Highway Commr., Richmond. (See Machinery Wanted—Bridge Construction.)

Va., Hanover.—Hanover and Caroline counties will construct 254-ft. concrete bridge, 2 mi. from Hanover, between 2 counties; State Highway Com., G. P. Coleman, State Highway Commr., Richmond, opened bids Sept. 3.

Va., Richmond.—Administrative Board ordered repairs to Ninth-St. free bridge costing \$6000. Chas. E. Boiling, City Engr.

W. Va., Gauley Bridge.—Gauley & Eastern Ry. Co., C. M. McVay, Ch. Engr., (Engr. M. of W. K. & M. Ry., Charleston, W. Va.) will build 3 timber trestles, 20 ft. high, 130 ft. long, in connection with railway construction, Gauley Bridge to Belva, W. Va.

W. Va., Martinsburg.—Berkeley County asks bids until Sept. 8 to construct 80-ft. reinforced concrete arch bridge across Opequon Creek; plans with West Virginia State Road Com., R. Parker Davis, Bridge Engr., Morgantown, W. Va. (See Machinery Wanted—Bridge.)

CANNING AND PACKING PLANTS

Fla., Jacksonville.—Chamber of Commerce will form \$50,000 company to build sweet potato curing plant and warehouse.

Ga., Macon.—Macon Canning Co. chartered with \$100,000 capital by W. M. Webster of Macon, and W. M. Harris of Hampton, Ga.

La., Vinton.—Farmers Potato Curing Association will build sweet-potato curing plant.

Md., Golden Hill.—W. F. Applegarth will rebuild tomato cannery; erect 150x90-ft. ordinary-construction building.

N. C., Newbern.—Eastern Carolina Packing Co. organized; W. F. Aberly, Prest.; W. L. Hand, V.-P.; W. W. Griffin, V.-P.; W. H. Henderson, Secy.-Treas.; build meat killing and packing plant. (Lately noted Incptd. with \$100,000 capital.)

CLAYWORKING PLANTS

W. Va., Martinsburg.—Bricks and Blocks—Municipal Shale Brick & Block Co. will, it is reported, build additional plant.

COAL MINES AND COKE OVENS

Ala., Jasper.—Jasper Coal Co., Incptd. by J. O'Rell and Claud Gutterys.

Ala., Pocahontas.—Pocahontas Coal & Mining Co. Incptd. with \$50,000 capital; C. B. Teasley, Prest., Montgomery, Ala.; G. L. Wakefield, V.-P. and Gen. Mgr., Carbon Hill, Ala.; Luther Sides, Secy.-Treas., Pocahontas; owns 720 acres coal land; daily capacity 100 tons; will increase to 600 tons.

Ky., Artemus.—National Coal Co., Incptd. by T. A. Cox, W. B. Starke and J. E. Perkey.

Ky., Barboursville.—Furnish Coal Co., capital \$1000, Incptd. by A. B. Furnish, Mrs. A. B. Furnish and S. B. Dishman.

Ky., Harlan.—King Branch Coal Co., capital \$1000, Incptd. by J. G. Forester, J. T. Bowling and John D. Hughes.

Ky., Harrodsburg.—Cooke Mining Co., capital \$10,000, Incptd. by James T. Cooke, C. D. Thompson and W. D. Powell.

Ky., Hazard.—Leonard Coal Co. organized; L. F. Brashear, Prest.; F. H. Baker, V.-P. and Mgr.; B. W. Baker, Secy.-Treas.; develop 400 acres; estimated capacity 300 tons daily; by-product coke ovens; lately noted Incptd. capital \$25,000. (See Machinery Wanted—Mining Equipment.)

Ky., Pineville.—McRae Coal Co., Incptd. by W. E. Wilson, J. D. McRae and Maurice E. McRae.

Ky., Pineville.—Bowling Mining Co., capital \$40,000, Incptd. by H. S. Bowling, Stokel Bowling and W. J. Cunningham.

Ky., Wallins, Creek.—Miller Coal Mining Co., capital \$10,000, Incptd. by J. B. Miller, G. W. Hengen and Sarah Miller.

Ky., Vindex.—Clarion Coal Co., capital \$5000, Incptd. with Sheridan Stottleyer, Prest.; Lester M. Adams, V.-P.; Russell A. Price, Secy.-Treas.; develop 40 acres coal land.

Tenn., Memphis.—Memphis Coal Co. increased capital from \$20,000 to \$60,000.

Va., Lynchburg.—Mammoth Mining Co. chartered; capital \$250,000; Emanuel Goodman, Prest.; D. M. Thomasson, Secy.

W. Va., Accoville.—Carbon Hill Collieries Co., 624 Union Central Bldg., Cincinnati, Ohio, organized; Wm. Roegge, Prest.-Treas.; W. J. Quinn, V.-P. and Secy.; Thos. Quinn, Mgr.; develop 500 acres; daily capacity 600 tons. (In August, Logan & Hazard Coal Co. was noted Incptd. capital \$10,000, by O. T. Quinn of Accoville, and Wm. Roegge, D. A. Vowels and W. J. Quinn, all of Cincinnati.)

W. Va., Charleston.—Pine Ridge Coal Co., Room 703 Kanawha National Bank Bldg., organized; Chas. C. Gressang, 159 Lee St., Charleston, Prest.-Mgr.; H. S. Fridley, V.-P.; F. R. Bell, Jr., Secy.-Treas.; develop 100 acres; daily capacity 300 tons; S. H. Bridge, Charleston, Constr. Engr. In Aug. noted Incptd. capital \$25,000. (See Machinery Wanted—Mining Machinery.)

W. Va., Charleston.—Mordue Collieries Co., capital \$500,000, Incptd.; Thos. N. Mordue, Prest., People's Gas Bldg., Chicago; Chas. L. Allen, V.-P. and Mgr., Beckley, W. Va.; Robt. S. Spilman, Secy., Charleston; E. M. Merrill, Treas., Beckley; develop 3600 acres in Boone County.

W. Va., Elm Grove.—Elm Grove Mining Co., Jas. A. Paisley, Prest., will meet Sept. 22 to consider increase in capital stock from \$150,000 to \$600,000 and purchase of 830 acres coal land in Ohio and Marshall counties.

W. Va., Fairmont.—Robert Lee Coal Co., capital \$20,000, Incptd. by R. L. McCoy, H. K. McCoy, C. L. Musgrave and others.

W. Va., Fairmont.—Park Coal Co., capital \$50,000, Incptd. by Waitman H. Conaway, M. W. C. Conaway, Chas. E. Miller and others.

W. Va., Hartland.—French Coal Mining Co. chartered with \$100,000 capital by Robt. M. French, Edw. F. Faneast, Manuel A. Rodriguez, Wm. Boiling and Calvin Kennedy, all of New York.

W. Va., Hendricks.—Poiling Coal Co., capital \$10,000, Incptd. by J. E. Poiling, G. E. Davis, A. S. Lindsey and others.

W. Va., Lester.—Hoo Hoo Coal Co., Good-

will, W. Va., capital \$20,000, Incptd.; Jairus Collins, Prest.; A. M. Herndon, V.-P.; E. E. Hartsook, Secy.-Treas.; J. A. Staton, Mgr.; develop 100 acres; cost of machinery, \$20,000.

W. Va., Malden.—Malden Coal Co., Incptd. with \$75,000 capital by F. L. Conner, M. M. Pruitt, M. J. Nelson and others.

W. Va., Morgantown.—Morgantown Coal Co., capital \$25,000, Incptd. by H. C. Greer, Everhardt Bierer, G. E. Hartley and others.

W. Va., Morgantown.—Higgins Coal Co., Incptd. with \$20,000 capital by Wm. R. Higgins and others.

W. Va., Volga.—Edwards Coal Co., capital \$25,000, Incptd. by A. C. Edwards and Bird C. Edwards of Broad Ford, Pa.; E. C. Barnhart of Adah, Pa., and others.

W. Va., Wilsonburg.—Fort Clark Coal Co. purchased 68 acres coal land and will develop.

CONCRETE AND CEMENT PLANTS

Okla., Oklahoma City.—Concrete Posts—Farmers Concrete Post Co. Incptd. by A. L. Busey, E. D. Wrinkle and C. D. Jones; capital \$100,000.

COTTON COMPRESSES AND GINS

Ark., Ferda.—C. M. Philpot of Pine Bluff, Ark., will build cotton gin; three 7-saw gins; electric power to be furnished from Pine Bluff.

Ark., Jonesboro.—Jonesboro Compress Co., capital \$35,000, Incptd.; J. E. Parr, Prest.; E. C. Stuck, V.-P.; E. J. Mason, Secy.; Alex. Berger, Treas.

Ark., Pine Bluff.—Pine Bluff Warehouse & Compress Co. let contract United Equipment Co. of Knoxville, Tenn., to install sprinkling plant in cotton compress and warehouse; cost \$85,000.

Tex., Fulshear.—Fulshear-Simonton Gin Co., Incptd. with \$25,000 capital by W. P. Winner, E. M. Huggins, J. G. Mayes and others.

Tenn., Plant City.—Chas. H. Taylor will install gins for long staple cotton; purchased equipment.

Okla., Coleman.—Farmers Co-operative Gin Co. chartered by J. G. Miles, W. Robbins and W. R. Hudson; capital \$10,000.

Tex., Milford.—Farmers Gin Co. chartered with \$10,000 capital by J. E. Parker, J. H. James and R. G. Morrell.

COTTONSEED-OIL MILLS

Tex., Marlin.—Marlin Cotton Oil Co. will rebuild portion of mill damaged by fire to extent of \$15,000.

DRAINAGE SYSTEMS

Ark., Perry.—Commsrs. Cypress Drainage Dist. of Perry and Conway counties, John S. Harris, Chrmn., let contract E. J. Hahn of Little Rock at \$65,000 to construct drainage system; Parkes Engineering Co., Engr., Citizens Bank Bldg., Pine Bluff, Ark. (Lately noted inviting bids.)

Tenn., Clermont.—Lake County Commsrs. plan construction of drainage system to reclaim several hundred acres of marsh land.

Ga., Athens.—Shoal Creek Drainage Dist. No. 2 Clarke County, organized; drain 40 acres; will ask bids to construct 8-ft. ditch; floating dipper dredge work; estimated cost \$13,178.70; Engr., W. D. Alexander, Charlotte, N. C.; Tate Wright, Athens, Atty.

Ga., Athens.—Beaver Dam Drainage Dist. No. 1 will elect Supt. Sept. 15 and proceed with plans to drain above 1600 acres at estimated cost \$35,732; C. M. Statham, Athens, Engr.; Tate Wright, Atty. (Lately noted as to reclaim 1600 acres in Clarke, Oglethorpe and Madison counties.)

Ga., Statham.—Barbers Creek Drainage Dist., T. J. Sikes, Chrmn., will construct ditch 10 mi. long, about 8 ft. deep, bottom width 12 ft.; total excavation 211,000 cu. yds.; floating dredge work; Will D. Alexander, Engr., 412 N. Graham St., Charlotte, N. C. (See Machinery Wanted—Drainage.)

Mo., Gregory Landing.—Gregory Drainage Dist., H. P. Foley, Secy., invited bids until Sept. 8 to furnish equipment and materials for drainage system to include: Equipment, labor and material for construction of foundation and sluiceway, pump station building and appurtenances; furnishing, delivery and installation of pump machinery, including

two 4-in. centrifugal pumps; electrical machinery, including motors, transformers and switchboard for two 250 H. P. units; steam machinery, including engine, boilers and auxiliaries for two 250 H. P. units; two 6-ft. by 4-in. sluice gates, two 42-in. valves and piping; priming device for pump; traveling crane of 10-ton capacity; hydraulic instruments; furnishing equipment, labor and material for erection of pumphouse operator's residence; Edmund T. Perkins Engineering Co., Engr., 1210 First Nation Bank Bldg., Chicago, Ill., and 317-19 Illinois State Bank Bldg., Quincy, Ill. (See Machinery Wanted—Pumping Station Equipment.)

Tenn., Lexington.—Henderson County drainage district let contract P. H. Thrasher of Selmer, Tenn., to construct drainage canal in Central Henderson County at headwaters of Beech river; specifications call for ditch 10.3 mi. long and 20 ft. wide to top; 330,345 cu. yds. earth excavation; reclaim several hundred acres land.

ELECTRIC PLANTS

Ala., Montgomery.—Montgomery Light & Traction Co. plans to build sub-station equipped with 5 high capacity rotary converters and accompanying equipment.

La., De Ridder.—De Ridder Light & Power Co., W. F. McCommon, Secy., Beaumont, Tex., and O. B. Youngblood, Mgr., De Ridder, will erect 72x36-ft. structure; day labor; cost of rebuilding plant \$10,000; develops 225 K. W.; portions of machinery were not destroyed by lately-noted fire. (See Machinery Wanted—Electrical Equipment.)

La., Westwego.—Leo A. Marrero of Gretna, La., plans organization company to build electric-light plant and water-works.

Miss., Greenwood.—Yazoo & Mississippi R. R. Co., A. H. Egan, Gen. Supt., Memphis, Tenn., will build power-house; E. W. Jansen, Electrical Engr., Chicago, in charge. (Lately noted as of brick construction, 26x54 ft.)

N. C., Maxton.—City proposes installation of electric-light plant. Address The Mayor.

N. C., Rich Square.—Rich Square Light & Power Co. will improve electric-light plant; install crude oil engine; purchased new equipment.

Okla., Miami.—City approved report planning \$150,000 expenditure for electric-light plant and water-works improvements. Address The Mayor.

Va., Norfolk.—Government let contract J. W. Danforth Co. of Norfolk to erect power plant for United States naval base at Jamestown Exposition; contract calls for erection of plant and distribution system, with exception of boilers.

FERTILIZER FACTORIES

Fla., Pensacola.—Pensacola Fertilizer & Oil Co. (M. McGrath, F. M. Miller and others of New York) will build fertilizer factory to consist of plant buildings, commissary structures, employee's dwellings and wharf; use fish for raw material. (Lately noted inceptd. with \$250,000 capital.)

N. C., Navassa.—Morris Fertilizer Co., 301 Third National Bank Bldg., Atlanta, Ga., will erect buildings to cost \$125,000; 150x200 ft., 175x350 and 100x80-ft. structures; also smaller buildings; mill and brick construction; date of opening building bids not announced; Constr. Engr., Peter S. Gilchrist, Chemical Engr., Charlotte, N. C.; install whole equipment for manufacture of sulphuric acid, acid phosphate and complete fertilizers; annual capacity 60,000 tons fertilizers. Lately noted, estimated expenditure \$500,000; plant to cover 8 acres. (See Machinery Wanted—Transmission Machinery, etc.; Lumber; Iron.)

S. C., Lake City.—Double Action Fertilizer Distributor Co., lately noted inceptd., will manufacture a fertilizer distributor. (See Foundry and Machine Plants.)

FLOUR, FEED AND MEAL MILLS

Ala., Headland.—Wiregrass Milling Co. capital \$7500, inceptd. by R. M. Limgo, J. J. Epsy and W. M. Hardwick.

Fla., Clearwater.—C. M. Fillman will establish velvet bean and grist mill, rice mill, etc.

N. C., Stovall.—Sam C. Howard proposes to install corn mill and hydro-electric plant. (See Machinery Wanted—Water Wheels; Corn Mills; Electrical Machinery.)

FOUNDRY AND MACHINE PLANTS

Ark., Fort Smith.—Engine Vaporizer.—Manufacturing Vaporizer Co. organized with \$50,000 capital; H. E. Manning, Prest.; Sydney C.

Reagan, Secy., both of Fort Smith; John I. Allen, V.-P.; J. T. Magruder, Treas.; both of Mena, Ark.; build plant to manufacture vaporizer to increase power of gasoline engines and decrease fuel consumption.

Ala., North Birmingham, Station Birmingham—Harrows.—Birmingham Disc Harrow Co., Dadesville, Ala., or North Birmingham, Ala., care of C. S. Choinski, organized; Mrs. Nora E. Miller, Prest.; J. W. Strother, V.-P. and Counsel; J. H. Lovelace, Secy., all of Dadesville; C. S. Choinski, Asst. Secy., North Birmingham; acquired another company interests; has stock of harrows and parts; considering as to best location for new plant. (Lately noted inceptd., capital \$100,000.)

Okla., Clearwater—Blacksmith Shop.—C. M. Fillman will establish blacksmith shop.

Ky., Louisville—Welding Plant.—Standard Welding Co., capital \$100,000, inceptd. by L. B. Rosenfield, Carolyn Rosenfield and Christine G. Cattell.

Mo., St. Louis—Water Heaters.—Universal Heater Mfg. Co., chartered with capital \$25,000 by J. G. Beckmann, C. R. Garrison and Francis B. Runder.

S. C., Lake City—Fertilizer Distributor.—Double Action Fertilizer Distributor Co., organized; M. D. Turbeville, Prest.; W. M. Severance, Secy. Treas.; use old planning mill plant, partly supplied with machinery; install additional machinery; manufacture fertilizer distributor, 10 daily at start. (See Machinery Wanted—Saw Table, Etc.)

GAS AND OIL ENTERPRISES

Ark., Marianna.—Marianna Oil Co. organized with \$50,000 capital; W. D. Newbern, Prest.; Arthur Cotter, V.-P.; Walter L. Brown, Secy.

Ky., Frankfort.—Menefee Oil & Gas Co. capital \$50,000, inceptd. by C. C. Turner, John G. South and D. L. Hazelrigg.

Ky., Lexington.—Wm. C. Eakins of New York and Geo. B. Gifford of Bayonne, N. J., acquired interest in 315,000 acres oil leases in Meade, Grayson, Breckinridge, Hart and other counties and in various gas properties; contemplate establishing one or more gasoline recovery plants in Pike and adjacent counties and oil refinery.

La., Shreveport—Oil Refinery.—Union Refining Co. chartered with \$100,000 capital; W. K. Sutherlin, Prest.; L. E. Stokes, V.-P.; D. S. Arnold, Secy.; build oil refinery.

La., Shreveport.—Preferred Oil & Gas Co. of Louisiana, capital \$200,000, inceptd.; W. A. Jones, Prest., Shreveport; D. J. Grigsby, V.-P., Ardmore, Okla.; E. M. Bodehheimer, Secy. Treas., Shreveport.

Mo., Baxter—Oil Refinery.—Chas. Goode, A. V. Smith and others will build oil refinery; begin with daily output 20 bbls.

Mo., St. Louis—Oil Pipe Line.—Yarhola Pipe Line Co. plans to lay 428 mi. oil pipe line from Cushing (Okla.) field to St. Louis; also construct pumping stations and telephone system connecting them.

Okla., Ardmore.—The Ardmore Lubricating Oil Co. chartered by Wilson Newman, S. M. Holland, Hester Welborn and J. C. Pratt; capital \$50,000.

Okla., Ardmore—Oil Refinery.—Chickasaw Refining Co., D. J. Childs, Secy. Treas., Box 478, advises Manufacturers Record: This company, lately inceptd., purchased 60-acre refinery site; will install equipment to refine crude oil. (See Machinery Wanted—Oil Refinery Equipment.)

Okla., Blackwell.—C. H. & W. O. Oil Co., chartered by C. L. Hartman and A. H. Wood of Bratman, Okla., and D. L. Cooly of Topeka, Kan.; capital \$250,000.

Okla., Cherokee—Gasol Co., capital \$10,000, inceptd. by J. M. Langston, Jr., I. E. Bradley and others.

Okla., Enid—Oil Refinery.—Oil State Refining Co. organized with \$250,000 capital; Jno. S. Graham, Prest., Marlow, Okla.; Chas. O. Jaggers, V.-P.; E. B. Wallace, Secy.; E. P. Kilgore, Treas.; all of First National Bank Bldg., Chickasha, Okla.; build refinery with daily capacity 2500 bbls. oil. (Lately noted.)

Okla., Enid—Oil Pipe Line.—Harry E. Alton, Prest., Chamber of Commerce, and others will invest \$50,000 to lay oil and pipe line from Covington, Garber and Billings oil fields to Enid.

Okla., Haskell—Englert Oil Co., chartered by A. J. Englert, J. E. Rose and M. M. Brown; capital \$8000.

Okla., Lenapah.—Blue Tiger Oil & Gas Co., chartered by T. J. Lucado, M. Corbyn, Okla-

homa City, and James A. McVoy of St. Louis; capital \$50,000.

Okla., Miami.—Standard Royalty Co., 211 Fraysre-Fullerton-Tidwell Bldg. (P. O. Box 286), organized; A. D. Bennett, Prest.; Seymour Riddle, V.-P.; Minnie Cochrane, Secy.; D. H. Wilson, Treas.; H. M. McDonald, Gen. Mgr.; deal in lead and zinc properties. (Lately noted inceptd., capital \$10,000.)

Okla., Muskogee.—Lillian-Ella Development Co., chartered by J. Leon Brogan and E. L. Land of Oklahoma City; capital \$25,000.

Okla., Nowata.—Mid-Continent Petroleum Co., capital \$100,000, inceptd. by M. G. McCaslin, M. J. McDougle and T. E. Elliott.

Okla., Oklahoma City.—Fifty-Associates Co., capital \$125,000, inceptd. by Jos. Huckins, Jr., J. M. Bass and W. J. Pettee.

Okla., Oklahoma City.—The Inter-Alia Development Co., chartered by James Harrington, M. L. Harrington, and R. A. Rogers; capital \$20,000.

Okla., Oklahoma City—Oil Refinery, etc.—Kansas City Wholesale Oil Co., Kansas City, Mo., will establish oil refinery and compounding plant; initial cost \$30,000; proposed within year to increase capacity and expend \$100,000 in improvements; J. S. Brown of Kansas City to be Local Mgr.

Okla., Oklahoma City.—Peoples Co-operative Oil Co., chartered by W. G. Burch, J. D. Gassier and J. L. Ladd of Oklahoma City; capital \$235,000.

Okla., Oklahoma City.—Surprise Oil Co., capital \$100,000, inceptd. by D. J. Jordan and W. S. Nelson of Oklahoma City and E. W. Hogan of McCurtain, Okla.

Okla., Oklahoma City.—White Panther Oil Co., chartered by G. W. Hughes, E. R. Kerby, both of Oklahoma City, and G. T. Strickel of Drumright, Okla.; capital \$250,000.

Okla., Sapulpa.—Caspiian Oil Co., chartered by J. Phillips, E. W. Huhen and J. J. Yoder; capital \$250,000.

Okla., Tulsa—Arcala Oil Co., chartered by J. W. Reynolds, Leslie Wilson and O. W. Apbley; capital \$250,000.

Okla., Tulsa—Wigwam Oil Co., capital \$75,000, inceptd. by D. C. Acosta of Tulsa, O. N. Brown and E. F. Nance of Kansas City, Mo.

Okla., Tulsa—Syclo Oil & Gas Co., capital \$10,000, inceptd. by W. D. Wimbish, L. W. Rook and Remington Rogers.

Okla., Tulsa—Universal Petroleum Co., inceptd. by J. P. Harper, L. C. Harper and J. R. Cleveland; capital \$50,000.

Okla., Tulsa—Oil Refinery.—Vellima Refining Co. chartered by Roy McKee, J. W. Orr and D. M. King of Tulsa; capital \$150,000.

Okla., Tulsa—Oil Refinery.—Cherokee Refining Co. chartered by L. W. Rook, R. E. Adams and Remington Rogers; capital \$120,000.

Tenn., Alamo—Distributing Station.—Standard Oil Co. will build distributing station for gasoline and oil.

Tenn., Lewisburg—Middle States Oil Co., capital \$30,000, inceptd. by A. V. McLane, W. J. Whitsett, R. K. Orr and W. H. Moore.

Tex., Amarillo—Refinery.—Wichita Refining Co., Iowa Park, Tex., reported interested to establish refinery for manufacturing gasoline, kerosene and by-products.

Tex., Fort Worth—Rock Creek Oil & Gas Co., capital \$50,000, inceptd. by L. F. Calkins and others.

Tex., Fort Worth—Pope Oil Co., capital \$50,000, inceptd. by G. R. Gatewood and Theo. Mack of Fort Worth, and G. W. Morrel of Denton, Tex.

Tex., Houston—Kansas City-Humble Oil Co., capital \$100,000, inceptd. by J. D. Prewitt, A. H. Davis and J. T. McCullough.

Tex., Houston—Trinity River Oil Co., capital \$25,000, inceptd. by F. E. Embry and others.

Tex., Houston—Crown Oil & Refining Co., organized with \$2,000,000 capital by R. L. Young of Houston, A. A. Hufstutter of Georgetown, Tex., and J. C. Stribling, Llano, Tex.

Tex., Paris—Paris Petroleum Co. organized by W. H. Upton, G. D. Bennett, each of Paris; F. S. Byers of Chicago, and Wm. Young of Shreveport, La.

Tex., Waco—Garrett Oil Co., chartered with \$10,000 capital by M. L. Garrett and others.

Tex., Weatherford—Weatherford Oil & Gas Co., capital \$11,000, inceptd. by R. W. Davis, A. T. Collier, T. R. Erwin and others; has 25,000 to 28,000 acres oil and gas leases in Parker and Palo Pinto counties.

Tex., Wichita Falls.—Panhandle Oil & Gas Co., capital \$50,000, inceptd. by J. F. Long, Jr., W. Lindsey Bibb and Geo. W. Thoburn.

Va., Buckhead.—Virginia Oil & Gas Corp., chartered; capital \$100,000; D. L. Butts, Prest., Devereux, Ga.; J. H. Malone, V.-P., Milledgeville, Ga.; H. L. Malone, Secy. Treas., Buckhead, Va.

W. Va., Huntington—West Virginia Oil Distributing Co., capital \$50,000, inceptd.; J. G. Todd, Prest.; J. H. Steenbergen, V.-P.; R. T. Moore, Secy. and Gen. Mgr.; J. B. Dewater, Treas.

HYDRO-ELECTRIC PLANTS

N. C., Stovall.—Sam C. Howard proposes to construct dam across creek and install hydro-electric equipment. See Flour, Feed and Meal Mills. (See Machinery Wanted—Electrical Machinery; Water Wheels.)

Okla., Pensacola—Grand River Hydro-Electric Co., Tulsa, Okla., H. C. Holderman, Mgr., West Tulsa, Okla., advises Manufacturers Record: Will develop 56,000 H. P.; not begin construction for 6 months. (In Aug., noted inceptd., capital \$10,000, by H. C. Holderman, C. H. Fenstermacher and J. H. Rothammer.)

ICE AND COLD-STORAGE PLANTS

Ark., Ozark.—Citizens Service Co. (subsidiary, Peoples Service Co., 311 Barnes Bldg., Muskogee, Okla.), will erect 75x45-ft. building of native sand stone; date of opening bids not set; install ice machine, daily capacity 18 tons; H. C. Blackwell, Davenport, Iowa, Prest.; G. W. Fry, V.-P. and Mgr.; A. S. Nelson, Secy., both of Muskogee; H. P. Harley, Div. Supt., Ozark. (Lately noted.)

Ky., Catlettsburg.—Managers Hotel Shively will install refrigerating plant to cost \$3500.

Tenn., Clinton—Clinton Ice Co. increased capital from \$5000 to \$10,000.

LAND DEVELOPMENTS

Ala., Sterrett.—Sterrett Farm Co., 708 Tuscaloosa Ave., Birmingham, Ala., W. C. Gwin, Prest.-Treas., will develop 500 acres in Shelby county; improvements to cost \$5000 to \$6000; contemplate installation of saw mill, dairy, etc. (Lately noted inceptd., capital \$2000.)

Ark., Hot Springs.—Union Land & Development Co., capital \$10,000, inceptd. by Vernon-Price Williams, C. C. Epps and J. S. McConnell.

Fla., Bradenton—H. F. Curry Estate, capital \$35,000, inceptd.; Whitney Curry, Prest. and Treas.; Susan F. Curry, V.-P.; H. R. Curry, Secy.

Fla., Bronson.—Florida Development & Improvement Co., capital \$2500, inceptd.; C. A. Lunsford, Prest.; L. J. Tucker, V.-P.; A. P. Hardee, Secy.-Treas.

Fla., Manasota.—Manasota Land & Timber Co. organized; J. Henry Strohmeyer, Prest.; R. Lancaster Williams, V.-P.; Jos. E. Whitney, Secy.-Treas.; all of Baltimore, Md.; purchased 5,628 acres Manatee and De Soto County land and unsold property in subdivision of Manasota on Lemon Bay; continue developments; plans extensive improvements.

Fla., Miami.—South Okeechobee Farms Co., capital \$500,000, inceptd.; Walter H. Nichols, Prest.; Chas. A. Hopkins, V.-P.; C. H. Neel, Secy.-Treas.

Ga., Wheeler County.—J. H. and Paul Roberts, Wm. McRae and W. M. Clements, all of McRae, Ga., plan to develop 43,000 acres in Wheeler, Dodge, Telfair and Laurens counties for farming. (See Lumber Manufacturing.)

S. C., Adams Run.—Liberty Truck & Stock Farm, inceptd.; A. L. King, Prest.-Treas.; S. S. F. King, Secy.; develop 500 to 1000 acres in St. Paul's township, Charleston County, reclaiming present rice lands for other crops; also drain and clear cut-over lands, build silos and raise cattle and hogs; contemplates expenditure \$25,000 within 10 months.

S. C., Midland Park.—Clarke Corp. chartered with \$15,000 capital by J. P. Clarke and others.

LUMBER MANUFACTURING

Ark., Cedar Glades.—McElroy Lumber Co. will rebuild saw and planing mill lately burned at loss of \$16,000.

Ala., Sterrett.—Sterrett Farm Co., W. C. Gwin, Prest., 708 Tuscaloosa Ave., Birmingham, Ala., proposes establishment of saw mill. (See Land Developments.)

Ark., Roe.—Norton & Wheeler Stair Co., Pine Bluff, Ark., will build saw mill; daily capacity, 25,000 ft.

Ark., Vincent.—Enterprise Lumber Co., capital \$300,000, Incptd.; J. Hood, Prest.; J. H. Findlay, V.-P.; H. A. Hinkley, Secy.-Treas.

Fla., Clermont.—R. L. Bracy will build sawmill.

Fla., Williston.—Long-Pasley Lumber Co., Gainesville, Fla., organized; Geo. P. Long, Gainesville, Prest.; J. E. Pasley, V.-P. and Treas.; G. C. Coleman, Secy.; both of Williston; succeeds Southern Pine Co.; no important improvements contemplated. (Lately noted Incptd., capital \$30,000.)

Ga., Blakely.—Hicks Lumber Co. organized; T. B. Lovelace, Prest.; C. M. Young, V.-P.; both of Metasville, Ga.; W. W. Hicks, Secy.-Mgr., Blakely; install planing mill outfit, boiler and engine; cost \$5000; manufacture North Carolina pine roofers and dimension. Lately noted with timber tract purchased. (See Machinery Wanted—Planing Mill Equipment.)

Ga., Lumpkin.—King Lumber Co., Cuthbert, Ga., will build saw and planing mill.

Ga., Lumpkin.—J. F. Alexander, Forest City, N. C., will build planing mill.

Ga., McRae.—Wm. McRae and others will establish 20 saw mills; cut 43,000 acres timber.

Ga., Wheeler County.—J. H. and Paul Roberts, Wm. McRae and W. M. Clements, all of McRae, Ga., purchased 43,000 acres in Wheeler, Dodge, Telfair and Laurens counties; plan to install 20 sawmills to cut timber; after property is cleared will develop for farming; divide into small tracts, erect buildings, etc.

Ky., Louisville.—Churchill-Milton Lumber Co., increased capital from \$100,000 to \$200,000.

Ky., Viper.—J. M. Knuckles Lumber Co. purchased and will develop 2000 acres hard-wood timber land on middle fork of Kentucky River in Leslie County; install several mills.

La., Toga.—Lee Lumber Co. will rebuild plant burned at loss of \$60,000.

La., Pawnee.—Vernon Parish Lumber Co. organized by J. H. Kurt, Jr. of Pawnee Land & Timber Co., and others; purchased timber land, will build mills.

La., Ravenswood.—Scotland Lumber Co. organized with \$40,000 capital by J. B. Crawford of Ravenswood, C. W. Owen of New Orleans, and F. P. Nash of Cheneyville, La.

Miss., Deemer.—New Deemer Mfg. Co. organized; Prest., Stewart Gamell, Deemer; Secy.-Treas., Lynn H. Binkins, Prest. of Interstate Trust & Banking Co., New Orleans; directors include P. H. Saunders, Prest. of Commercial Trust & Savings Bank, New Orleans; F. E. Watrous of Wellsboro, Pa., Jno. Van Fossen and E. M. Workhaiser of Deemer; succeeds Deemer Mfg. Co.; properties include 50,000 acres timber land, (one-third cut over) and mills with daily capacity 75,000 to 100,000 ft. sawed lumber.

N. C., Elkin.—Portable Mills Lumber Co., capital \$25,000, chartered by J. F. Carter, J. M. Simmons and C. B. Penny.

S. C., Hardeville.—Williams-Huston Lumber Co. chartered by Henry R. Williams and D. C. Hutson.

S. C., Mullins.—Mullins Lumber Co., increased capital from \$30,000 to \$100,000.

Tex., Houston.—John W. Greer Lumber Co., chartered with \$25,000 capital by John W. Greer, E. A. Greer and Thos. W. Blake.

Va., Fort Blackmore.—J. S. McConnell Lumber Co., Appalachia, Va., acquired 166 acres timber, mainly white oak; will install sawmill, capacity not decided.

METAL-WORKING PLANTS

Ala., Birmingham—Beds.—Birmingham Metal Bed Co., Incptd. with capital \$5000; A. E. Day, Prest.; John R. Boyle, Secy.-Treas.

Ark., Fort Smith—Scissors.—Solid Steel Scissors Co. will install additional new machinery.

Md., Baltimore—Porcelain Enamels.—Porcelain Enamel & Mfg. Co., 8th and O'Donnell Sts., advises Manufacturers Record: Plans not sufficiently advanced to state details of construction and equipment for new plant. (Previously reported to build additions.)

N. C., High Point—Aluminum.—C. M. Hickman, Asheville, N. C., is reported to build aluminum manufacturing plant.

Va., Norfolk—Chains.—American Chain Co. of Virginia (subsidiary of American Chain Co., Bridgeport, Conn.) chartered with authorized capital \$1,000,000; Tazewell Taylor,

Prest.; A. C. Cole, Secy.-Treas.; build \$250,000 plant to manufacture chains; has site; begun preliminary construction. (American Chain Co. previously noted to build plant.)

MINING

Ala., Heflin—Mica.—Indian Mica Co., 11 Montague Bldg., Chattanooga, Tenn., Incptd.; capital \$25,000; develop 280 acres; daily capacity 1000 lbs.; Harry H. Wand, Prest.; W. G. Oehnig, Secy.-Treas. (See Machinery Wanted—Mica Molding Machinery.)

Ala., Russellville—Iron Ore.—Suwanee Iron Co., D. I. Miller, Engr., Grand Rivers, Ky., purchased 750 acres iron ore property and contemplates development; erect several washers.

Ark., Bonca.—Kilgore Mining Co. organized with \$20,000 capital; Isaac Kilgore, Prest.; E. A. Minicus, V.-P.; H. R. Southland, Secy.

Ark., Batesville—Manganese.—Standard Manganese Co., capital \$10,000, Incptd.; M. H. Cutter, Prest.; Earl C. Casey, V.-P.; W. E. Thurlow, Secy.; J. P. Thomas, Treas.

Fla., Fernandina—Phosphate.—Dunnellon (Fla.) Phosphate Co., Ralph Barker, Managing Director, 22 William St., New York, advises Manufacturers Record: Have not formulated plans for building of Fernandina; expect to erect phosphate warehouse and loading plant. (Lately reported to build plant requiring reinforced concrete and iron buildings to cost \$50,000.)

Md., Reisterstown—Chrome.—F. A. Dolfield, Prest., Canton National Bank, Baltimore, and associates plan development chrome mine.

Mo., Carthage.—Missouri Quarries Co. Incptd. with \$100,000 capital by J. B. Robertson, F. J. Lantz and J. E. Lang.

Mo., Herculaneum—Lead.—St. Joseph Lead Co. will build trestle and ore bins; reinforced concrete; cost \$150,000; Unit Construction Co., Constr. Engr., Title Guaranty Bldg., St. Louis.

Mo., Joplin—Lead and Zinc.—Elk Valley Mining & Development Co., chartered with \$50,000 capital by R. A. Talmage, Jesse M. Thompson and F. G. Snow.

Mo., Joplin.—Elk Valley Mining & Development Co. chartered by R. D. Talmage, Jesse M. Thompson and F. C. Snow.

Okla., Miami.—Eldorado Mining Co. chartered with \$150,000 capital by Wm. G. Catron, C. B. McCluskey, both of Kansas City, Mo., and A. C. Wallace of Miami.

Okla., Miami—Zinc.—Big Zinc Mining Co., capital \$200,000, Incptd. by J. A. Settle of Miami, J. J. Poole and J. C. Redfield of Muskogee.

Okla., Miami—Lead.—Big Lead Mining Co. chartered by J. J. Poole and J. C. Redfield of Muskogee, Okla., and J. A. Settle of Miami.

Okla., Miami.—Wolftone Mining Co., capital \$200,000, Incptd. by H. W. Geisinger of Miami, A. P. Mackley of Desloge, Mo., and Geo. W. Decker of St. Louis, Mo.

Okla., Muskogee—Lead and Zinc.—Musko-gee Lead & Zinc Mining Co., capital \$500,000, Incptd. by F. Miller, L. W. Thompson and Jay Brotherton.

Okla., Oklahoma City—Lead and Zinc.—National Lead & Zinc Co., capital \$250,000, Incptd. by Edwin C. Ruff, L. L. Wills and E. W. Buchanan.

Okla., Picher—Lead and Zinc.—Wolftone Mining Co. organized with \$20,000 capital by L. P. Mackel, Harry Blessing and Geo. Decker; develop lead and zinc property; build concentrating mill.

Okla., Picher—Lead and Zinc.—J. P. Buchanan, Joplin, Mo., purchased and will develop 40 acres lead and zinc land; plans erection 400-ton concentrating plant.

Okla., Yukon—Zinc.—Bethlehem Zinc Co., capital \$150,000, Incptd. by John F. Kroutil of Yukon, D. E. Rodgers and Ed. J. Delaney, each of Oklahoma City.

Tenn., Chattanooga—Mica.—Indian Mica Co., 11 Montague Bldg., lately noted Incptd., will develop mica in Alabama. (See Ala., Heflin.)

Tenn., Mount Pleasant—Phosphate.—Virginia-Carolina Chemical Co. (main office, Richmond, Va.), acquired Mt. Pleasant Fertilizer Co.; plans further development of property and increased production.

Tex., Houston—Sulphur.—Swift Oil & Sulphur Co., organized, 315 First National Bank Bldg.; W. B. Dunlap, Prest.; O. A. Swift,

V.-P.; J. G. Leavell, Secy.-Treas.; Clinch Hillyer, Gen. Mgr.; develop 550 acres Damon Mound land for sulphur and oil. (Lately noted Incptd. with \$250,000 capital.)

Tex., Santa Anna—Copper.—Knox County Copper Co., capital \$50,000, Incptd. by H. W. Turner, C. M. Pieratt and S. J. Pieratt.

MISCELLANEOUS CONSTRUCTION

Fla., Miami—Bay Front Filling.—Tatum Bros. Real Estate & Investment Co., are interested in proposed improvements to 6 mi. bay front; filling 2,000,000 yds. mud and marl. (See Machinery Wanted—Dredge.)

La., Gretna—Levee.—Louisiana State Board of Engrs., New Orleans, let contract E. C. Richarme of New Orleans to construct 723 lin. ft. creosoted timber bulkhead and auxiliary work on Gretna front levee, Jefferson Parish.

Miss., Vicksburg—Levee.—Third Mississippi River Dist., P. O. Box 404, will construct 303,000 cu. yds. levee works; bids until Sept. 12. (See Machinery Wanted—Levee Construction.)

Tex., Dallas—Natatorium.—J. W. Gardner will build natatorium.

Tex., Galveston—Dredging.—Gulf, Colorado & Santa Fe Ry., F. G. Pettibone, Gen. Mgr., appropriated \$358 to dredge channel at Ninth St.

MISCELLANEOUS ENTERPRISES

Ala., Birmingham—Laundry.—Camp McClellan Laundry Co., Incptd. with \$2500 capital; Percy W. Brown, Prest.; Geo. A. Blinn, V.-P.

Ala., Montgomery—Stockyards.—Union Stockyards of Montgomery, W. M. Teague, Prest., advises Manufacturers Record: Stockyards of 14 acres; at present, will cover 3/4 acres with buildings, cost \$35,000 to \$50,000; construction to allow for expansion; plans by Gaffney & Epping, Louisville, Ky. (Lately noted Incptd., capital \$100,000.)

Ala., Sterrett—Dairy.—Sterrett Farm Co., W. C. Gwin, Prest., 708 Tuscaloosa Ave., Birmingham, Ala., proposes establishment of dairy. (See Land Developments.)

Ark., Wynne—Hardware.—Graham Hardware Co., capital \$10,000, Incptd.; R. L. Block, Prest.; M. O. Burton, V.-P.; W. T. Graham, Secy.-Treas.

Fla., Bartow—Plumbing and Supplies.—Whidden Plumbing & Supply Co., capital \$10,000, Incptd.; Ida R. Whidden, Prest.; H. P. Whidden, V.-P.; W. J. J. Whidden, Secy., Treas. and Gen. Mgr.

Fla., Fort Pierce—News Printing Co., organized; capital \$15,000; R. H. Glenn, Prest.; A. B. Brown, V.-P.; Elwyn Thomas, Secy.

Ga., Donalsonville—Grain Elevator.—Thos. Chason, J. L. Dickenson, W. W. Gibson and others will build grain elevator; invest \$10,000.

Ga., Savannah—Dairy.—Wansley Milk Co., Incptd. with \$5000 capital by J. S. Wansley and others.

Ky., Louisville—Laundry.—National Laundry Co., capital \$25,000, Incptd. by W. E. Riley, D. B. G. Rose and F. B. Berkowitz.

Ky., Louisville—Grain Elevator.—Kentucky Public Elevator Co. increased capital from \$300,000 to \$550,000; rebuild burned grain elevator; also enlarge plant.

Ky., Louisville—Engraving, etc.—Harcourt & Co., Ashton Harcourt, Prest., will rebuild plant for steel and copper plate engraving; erect 3-story and basement stone and brick building; plans by D. X. Murphy, Louisville; one end of building entirely of glass; skylights; concrete floors; special arrangement of engraving, plate printing, embossing, typeprinting and shipping departments, etc. (Lately noted burned, loss \$50,000; building owned by Barret Estate.)

Ky., Paducah—Grain Elevator.—Lack-Redford Elevator Co., 2nd & Tennessee Sts., organized; F. E. Lack, Prest.; A. L. Redford, V.-P.; C. W. Craig, Secy.-Mgr.; erect building of concrete and wood construction, cost \$15,000; 45x138 ft., 60 ft. high; contract to be let Oct. 15 to G. W. Katterjohn, Paducah; plans by C. W. Donaldson, Columbus, Ohio; cost of dryer, sheller and elevator machinery, \$10,000; has purchased machinery. (Lately noted Incptd., capital \$25,000.)

La., Alexandria—Laundry.—Alexandria Steam Laundry Co. organized; F. R. Hodges, Prest.; A. Goldstein, V.-P.; both of Shreveport, La.; Paul Turregano of Alexandria; build laundry; 106x96 ft. white enameled brick structure costing \$20,000; 1-story; install \$25,000 equipment of machinery for laundry, cleaning and dyeing.

N. C., Winston-Salem—Tobacco.—T. D. Tyack Tobacco Co., capital \$100,000, Incptd. by T. D. Tyack and T. V. Edmunds, both of Winston-Salem and J. M. Edmunds of Danville, Va.

N. C., Winston-Salem—Tobacco.—T. D. Tyack Tobacco Co., capital \$100,000, Incptd. by T. D. Tyack and T. V. Edmunds, both of Winston-Salem and J. M. Edmunds of Danville, Va.

Okla., Tulsa—McEwen Mfg. Co. increased capital from \$300,000 to \$350,000.

Okla., Korn—Hardware.—Duerksen Hardware Co., chartered by John W. Duerksen of Kohn, Albert Krumm and George E. H. Goodner of Weatherford, Okla.; capital \$5000.

Okla., Oklahoma City—Grain Elevator.—Creamer-Gregg Grain Co., capital \$10,000, Incptd. by M. A. Creamer, E. W. Gregg and W. P. Keen.

S. C., Beaufort—Scenic Studio.—Beaufort Curtain Co., Box 324, will erect scenic studio; 60 ft. long; 35 ft. high; lighted from top of building; cost \$5600; contract let to J. H. Moore, Beaufort; construction begun; W. F. Scheper, Jr., Prest.; W. R. Eve, V.-P.; H. C. Politzer, Secy.; W. M. Bishop, Mgr.; all of Beaufort. (See Machinery Wanted—Stage Supplies.)

S. C., Charleston—Floral.—Rogers Floral Co., Incptd. with \$15,000 capital, by Francis S. Rogers, Jr., and Paul M. McMillan.

Tenn., Memphis—Barge Line.—Memphis Barge Co., capital \$20,000, Incptd. by H. A. Dugan, S. D. Rhem, Frank Melton and others.

Tex., Lufkin—Construction.—McConnico Construction Co., capital \$11,500, Incptd. by W. H. Moore, N. R. Miller, J. B. McConnico and others.

Tex., San Antonio—Transfer.—Carter-Mulhall Transfer Co., capital \$20,000, Incptd. by Max Autry, R. E. Hildebrand and Henry C. King, Jr.

Va., Lynchburg—Stockyards.—Lynchburg Stock Yards Co., capital \$10,000, will be organized; Walker Pettyjohn and D. B. Ryland or Chamber of Commerce are interested.

Va., Roanoke—Cleaning.—Shields Dry Cleaning Co., chartered with capital \$5000; Geo. J. Shields, Prest.; W. L. Shields, Secy.

Ark., Bradley—Phonographs.—W. P. Baker and others contemplate assembling phonographs. (See Machinery Wanted—Phonograph Parts.)

MISCELLANEOUS FACTORIES

Ala., Bay Minette—Bakery.—E. G. Nelson, Stockton, Vn., leased bakery; will improve plant; contemplates construction additional bakery.

Ark., El Dorado—Remedy.—Stinger Remedy Co., capital \$25,000, Incptd. by W. C. Jett, B. M. Whaley, T. G. Thielen and others.

Ark., Texarkana—Brooms.—Dixie Broom Co. leased 2-story factory building; equip for manufacturing brooms to increase capacity of its several factories.

Fla., Jacksonville—Clothing.—Jacksonville Garment Mfg. Co., Knight Bldg., Laura and Duval Sts., will install 30 machines to increase capacity of factory.

Fla., Tampa—Bakery.—F. H. Allen will build \$60,000 bakery; let contract to Bates & Hudnall, Tampa, for constructing 2 story, 85x65 ft. building; install machinery for daily capacity 10,000 to 15,000 loaves bread.

Ga., Savannah—Turpentine.—Turpentine Tank & Storage Co., capital \$15,000, Incptd. by John R. Walsh, J. F. O'Brien, D. T. Purse and O. T. McIntosh.

Ga., Tifton—Rice.—Board of Trade will organize company to build rice mill.

Ky., Louisville—Leather.—George Bosler Leather Co., capital \$30,000, Incptd. by George N. Bosler, Alma C. Bosler and Clem A. Ellett.

Ky., Louisville—Ovee Mfg. Co., capital \$10,000, Incptd. by W. Raymond Rose, H. M. Stuber and J. L. Ballway.

Mo., Canton—Brooms.—Economy Broom Mfg. Co., chartered with \$10,000 capital by S. F. Tannus, L. E. Gamble and E. M. Carr.

Mo., Kansas City—Drugs.—Never Tel Laboratories Corp., capital \$3000, Incptd. by E. A. Crouch, E. H. Weddle and E. C. Cleveland.

Mo., St. Louis—Coffee.—David G. Evans Coffee Co., Incptd. with \$125,000 capital by Gwynne Evans, R. B. Jackson and W. C. Connell.

N. C., Charlotte—Beverages.—Quake Bottling Co., capital \$125,000, Incptd. by H. S. Brown, N. W. Wallace, Jr., J. H. Dean and others.

N. C., Winston-Salem—Tobacco.—T. D. Tyack Tobacco Co., capital \$100,000, Incptd. by T. D. Tyack and T. V. Edmunds, both of Winston-Salem and J. M. Edmunds of Danville, Va.

Okla., Tulsa—McEwen Mfg. Co. increased capital from \$300,000 to \$350,000.

J. N. McCammon, Gen. Mgr.; Jno. Ward, Jr., Secy.; Benj. L. Brooks, Supt.; establish plant to construct wooden ships, barges, etc.; purchased all machinery; erect buildings by force account. (Lately noted to build plant.)

Tex., Rockport.—Heldenfels Bros., Beeville, Tex., will establish shipyards; have 100-acre site; will dredge slip 1000 yds. long and 300 yds. wide; have Government contract for 4 wooden hulls costing \$300,000 each.

Va., Norfolk.—Hampton Roads Shipbuilding & Dry Dock Co. chartered with \$1,000,000 capital; Gaylord W. Feaga, Pres.; J. D. Carey, V.-P.; J. T. Sweeney, Secy.-Treas.; all of Cleveland, Ohio; W. A. Cox of Norfolk is one of directors; has site at West Norfolk on Western branch of Elizabeth River; build plant to include machine shops, marine ways, wharves, etc., for constructing ships. (Gaylord Investment Co. lately noted chartered with \$50,000 capital as preliminary corporation to be succeeded by another to build shipyards; Hampton Roads corporation is this shipbuilding company.)

TELEPHONE SYSTEMS

Ala., Anniston.—Southern Bell Telephone & Telegraph Co., T. R. Gentry, Commercial Supt., Atlanta, Ga., authorized \$75,000 expenditure for improvements to provide facilities at Camp McClellan; will install additional sections of switchboard in Anniston exchange and is installing exchange at camp to which 125 telephones will be connected; construction will include placing of 35,000 ft. of cable and over 150 mi. of open wire; C. McEachin, Dist. Mgr., Birmingham.

Fla., Vero.—Brevard Telephone Co., G. W. Smith, Mgr., Fort Pierce, Fla., will build telephone exchange and office structure.

Ky., Bee Springs.—Lashley Telephone Co., inceptd. by Charles Lashley, P. V. Lashley and Porter Lashley.

Mo., St. Louis.—Yarhola Pipe Line Co. plans to construct telephone system.

S. C., Autreville.—Autreville Telephone Co. chartered by R. A. Keaton and Frank A. Carwell.

Va., Stuart.—Stuart Telephone Co. chartered, capital \$5000; H. L. Hooker, Pres.; Robt. N. Clark, V.-P.; H. O. Blackard, Secy.

TEXTILE MILLS

Fla., St. Augustine.—Silk.—Rev. Thos. De Pamphilis, 506 Forest Ave., Kansas City, Mo., will organize company for silk producing and manufacturing. (American Silk Producing & Mfg. Co. lately noted to manufacture silk, etc.)

Ga., Atlanta.—Cotton Products.—Royal Cotton Products Co. inceptd. with \$100,000 capital by L. G. Neal, W. B. Reeves and O. Shepard.

N. C., Lumbardale—Hosiery.—W. R. Newton, Decatur Elmore and C. J. Yelton will build hosiery knitting mill; erecting frame building; ordered 20 knitting machines.

Va., Winchester.—Woolen Goods.—Winchester Woolen Mills chartered, capital \$50,000; Geo. Dunham, Pres.; C. D. Grim, Secy.

WATER-WORKS

Ga., Nashville.—City contemplates bond issue to extend water-works. Address The Mayor. (See Road and Street Work.)

Ia., Westwego.—Lee A. Marrero of Gretna, La., plans organization company to build water-works and electric light plant.

Miss., Charleston.—City votes Sept. 24 on issuing \$13,500 bonds to construct water-works; also on \$13,000 bonds to install pumping plant. Address The Mayor. (Supersedes recent item.)

Mo., Jefferson City.—Missouri State Prison Board, W. R. Painter, Pres., will construct water system for State Penitentiary; supply pumped from deep wells; capacity of tank 200,000 gals.; bids until Sept. 15. (See Machinery Wanted—Water System.)

Mo., Hamilton.—City, A. G. Matthews, City Clerk, asks bids until Sept. 17 to construct water system; estimated cost \$31,000; capacity 250 G. P. M.; to comprise dam, coagulation basin, chemical plant, powerhouse building, pumping plant, water mains, hydrants, valves and tower; Engrs., E. T. Archer & Co., Kansas City. Lately noted. (See Machinery Wanted—Water-works Construction.)

Okla., Coyle.—City, Roy Teal, Mayor, will expend \$13,000 on water-works improvements; install pipe and tank, etc.; bond issue lately noted. (See Machinery Wanted—Hydrants.)

Okla., Kingfisher.—City is reported to vote

on bonds to construct water-works. Address The Mayor.

Okla., Miami.—City approved report planning \$150,000 expenditure for water-works and electric-light plant improvements. Address The Mayor.

Okla., Sentinel.—City, F. A. Mosher, Mayor, will improve and extend water-works; install fuel-oil engine, etc.; expend \$7000. Lately noted. (See Machinery Wanted—Engine; Motor.)

Tex., Cisco.—City will construct concrete reservoir; diam., 20 ft.; height, 55 ft. Address The Mayor.

Tex., Howe.—Howe Water Co., capital \$1200, inceptd. by J. K. Blackburn, Frank C. Slaughter and Sam. H. Thompson.

WOODWORKING PLANTS

Ala., Selma.—Boxes, etc.—Selma Box & Basket Co. will organize to build plant.

Fla., Clearwater.—Wood Products.—C. M. Fillman will establish woodworking plant.

Ky., Indian Bottom.—Louisville Cooperage Co., Louisville, Ky., states was lately incorrectly reported as to build woodworking plant.

Miss., Greenville.—Queen City Hoop Co. will build additions; install machinery to increase capacity.

Mo., Kansas City—Vehicle Bodies.—Russell Carriage Co. will build 3-story \$30,000 plant to manufacture commercial bodies for motor cars.

N. C., Asheville.—Furniture.—Carolina Wood Products Co. will build additional factory; 40x90 ft.; install machinery to manufacture kitchen and other furniture.

N. C., Maiden—Picker Sticks, etc.—Clay Manufacturing Co., H. E. Clay, Hickory, N. C., Prest. and Gen. Mgr., organized with \$10,000 capital by H. E. Clay, B. M. Spratt, Smith Campbell and others; establish factory for picker sticks and general cotton mill supplies; machinery is purchased; buildings under construction. Mr. Clay advises Manufacturers Record he is interested in machinery for making skewers, also (for others) machinery for making terra-cotta piping. (See Machinery Wanted—Skewer Machinery; Pipe (Terra Cotta) Machinery.)

Tenn., Nashville—Staves.—Gentry Staves & Lumber Co., capital \$7500, inceptd. by J. H. Frazier, H. B. Brown, D. C. Haston and others.

FIRE DAMAGE

Ala., Cedar Bluff.—Cedar Bluff Cherokee Co.'s newspaper printing plant.

Ark., Five Forks.—Clubhouse owned by L. E. Cheek; clubhouse owned by W. B. Sorrells, Pinchback Taylor and Chas. Dunnington.

Ark., Newport.—W. B. Grant's handle factory; loss \$12,000.

Fla., Safety Harbor.—Safety Harbor Inn, J. B. Whittlesey, Prop., loss \$9000; J. W. McDermott's building, loss \$2500; J. B. Whittlesey's 4 cottages, loss \$3000.

Ga., Lake Park.—Baptist Church. Address The Pastor.

Ga., Milledgeville.—Elks' Hall; Jearis & Robinson's auto storehouse; Barrett Bldg.; loss \$25,000.

Ga., Rome.—Elks' Home.

Ky., Guthrie.—John Cheate's residence; loss \$5000.

La., Tioga.—Lee Lumber Co.'s mill; loss \$50,000.

La., De Ridder.—De Ridder Light & Power Co.'s plant.

La., Winnfield.—C. A. Mathews' residence. Md., Bethesda.—Richard Hardy & Son's farm buildings; loss \$4000.

Md., Highlandtown.—James Hartley's bungalow at Back River.

Md., Hopewell.—W. L. Whittington's home; loss \$20,000.

Miss., Heidelberg.—R. P. Clayton's residence.

Miss., Louin.—Stores of J. M. Byrd & Sons, Wilkins & Boykin, J. C. Morris & Co., A. G. Lawson, E. E. Leeke, H. C. Hankins, M. L. Parker; postoffice building.

Miss., Pascagoula.—Catholic Church, priest's house and Sisters' Convent; loss \$20,000.

Mo., St. Louis.—Anheuser-Busch Brewing Association's warehouse.

Okla., Manitou.—Star Hotel, J. C. McClain, Prop.

Tenn., Chattanooga.—Charles Rogers' dwelling.

Tenn., Columbia.—Witherspoon Furniture Co.'s building, owned by Dr. W. P. Woldridge and Eugene Anderson; loss \$7500.

Tenn., Kingsport.—Dwellings of J. A. Ford and Herman Erwin; loss \$6000 to \$7000.

Tex., Belton.—J. E. Marshall's store, owned by Mrs. W. A. Allen.

Tex., Brownsville.—W. B. Clint's residence; James W. Batsell's cottage; loss \$6000.

Tex., Crisp.—J. P. Sims' cotton gin.

Tex., Dallas.—Hurst Bros. Co.'s store building, owned by R. H. Stewart; loss \$50,000.

Tex., Deport.—J. A. Fagan's residence; loss \$3000 to \$4000.

Tex., Hillsboro.—Buildings owned by Mrs. Annie L. King and Sam Rosen, Fort Worth; loss \$12,000.

Tex., Holmes.—Holmes Cotton Ginnery; loss \$10,000.

Tex., Marlin.—Marlin Cotton Oil Co.'s mill; loss \$15,000.

Tex., Nedra.—Simmons Estate's cotton gin; loss \$5000.

Tex., Rule.—Flowers & Lindley's building, loss \$8000; Charles Davis' store, loss \$2500; G. W. May's store, loss \$6000; People's Lumber Co.'s building, loss \$8000.

Tex., Sinton.—Sinton electric-light plant; Geo. Craven, Mgr.; loss \$6000.

Tex., Temple.—Omar Fletcher's cotton gin; loss \$4000.

Tex., Temple.—B. F. McDonald's residence.

Tex., Waxahachie.—D. B. Bullard's residence; loss \$5000.

Va., Sugar Grove.—E. P. Wassum & Co.'s sawmill.

W. Va., Parkersburg.—Terrapin Park Casino; loss \$30,000.

BUILDING NEWS

BUILDINGS PROPOSED

APARTMENT-HOUSES

Ark., Bentonville.—Linebarger Bros. Realty Co., Dallas, Tex., will erect apartment. (See Miscellaneous.)

Fla., Miami.—James H. Johnson will erect additional story to 4-story apartment-house under construction; reinforced concrete; 48 apartments; 1 to 4 rooms, bath and kitchenette; 44x144 ft.; foundation to permit erection of 7 stories; 4-ply built-up roof; electric lights; E. A. Nolan, Archt., Miami. (Previously noted.)

Fla., St. Petersburg.—A. C. Phell will erect theater; apartments above. (See Theaters.)

Ga., Atlanta.—C. A. Tappan will rebuild 2-story concrete and tile apartment-house; day labor; cost \$5000.

Mo., Kansas City.—Mary Judge will expend \$3000 to remodel tenement; construction by owner.

Mo., Kansas City.—H. M. Bennett will erect apartment-house; 2 stories; cost \$4000.

S. C., Columbia.—Jas. L. Denney deferred erection of Winva Apartment; will erect later by day labor and not general contract; plans by D. G. Ziegler, St. Matthews, S. C., call for structure 198x298 ft.; brick, concrete and hollow tile; composition floors and roofing; hot-water heat; passenger elevator; cost about \$175,000. (Previously noted.)

Tenn., Nashville.—Owners of Oxford Hotel will remodel building for apartment-house; conducted by Mrs. S. P. Wilson.

Va., Roanoke.—M. C. Franklin will erect apartment-house at Ninth Ave. and Jefferson St. N. W.

ASSOCIATION AND FRATERNAL

Ga., Augusta.—Y. W. C. A. has plans by Bleckley & Irvin, King Bldg., Augusta, for lately-noted gymnasium; brick, concrete and hollow tile; 2 stories; steam heat; white ceramic mosaic tile for pool. Address architects. (See Machinery Wanted—Gymnasium Equipment; Lockers.)

Ga., Macon.—Y. M. C. A. will erect 6 buildings at Camp Wheeler; W. S. Stallings, General Secy., Camp Wheeler, in charge of construction.

Okla., Forum.—American State Bank and A. F. & A. M. will erect building. (See Bank and Office.)

Tex., Fort Worth.—Knights of Columbus will erect 3 buildings at Camp Bowie for social center to include reading and writing rooms, restrooms, etc.; each building 50x100 ft.; total cost \$20,000; Dr. M. V. Creagan in charge of construction.

Tex., Waco.—Knights of Columbus will erect 3 buildings at Camp MacArthur; cost \$16,000.

BANK AND OFFICE

Fla., Vero.—Seminole Building Corporation, Vero or Davenport, Iowa, opens bids in week or 10 days to erect bank, store and office building; 100x75 ft.; hollow tile, Harvard brick and cement; gravel roof; cement and tile floors; fire places; cost \$30,000; separate contracts for lighting and sidewalls; Temple & Burrows, Archt., Davenport. Address Seminole Building Corporation, 609 Putnam Bldg., Davenport. (Lately noted.)

N. C., Charlotte.—J. Arthur Henderson will remodel building for stores and offices. (See Stores.)

N. C., Durham.—Durham Traction Co., J. F. Johnson, Jr., Engr., will remodel Harris-Butler Bldg. for office building, to include rearrangement of front by providing central entrance with display windows on either side, remodeling and repainting interior, improvements to fourth floor for library, reading-room and assembly hall.

Okla., Forum.—American State Bank and A. F. & A. M. will erect bank and Masonic hall; 2 stories; brick.

S. C., Barnwell.—Barnwell Banking Co. organized with J. E. Harley, Pres.; A. M. Denbow, V.-P.; L. P. Wilson, Cashier; purchased Burkhalter property and will remodel for bank building; brick; corrugated roofing; tile floors.

W. Va., Cabin Creek Junction.—Bank of Cabin Creek has plans by W. H. St. Clair, Charleston, W. Va., for bank, store and office building; 42x60 ft.; 2 stories and basement; reinforced concrete; Carey 5-ply flexible roof; reinforced concrete, wood and tile floors; direct steam heat; American 3-way vault lights; bids opened Sept. 3 (extended date); cost \$25,000. (Lately noted to open bids August 25.)

CHURCHES

Ala., Birmingham.—Calvary Baptist Church, J. R. Vail, Chrmn. Building Com., has plans by J. E. Greene, 508 American Trust Bldg., Birmingham, for auditorium; 60x80 ft.; ordinary construction; Barrett specification roof; pine floors; hot-air heat; electric lights; cost \$15,000; construction under supervision of J. F. Andrews, 4117 Avenue C, Birmingham. (Lately noted.)

Ark., Waldron.—Baptist Church, Rev. S. B. Barnett, Pastor, is having plans prepared by W. A. Rayfield & Co., Birmingham, Ala., for church and Sunday-school; 100x100 ft.; brick; cost \$10,000. Address Mr. Barnett. (Lately noted.)

Ga., Lake Park.—Baptist Church will rebuild structure noted damaged by fire. Address The Pastor.

Ga., Lagrange.—Christian Church, Rev. Claude C. Jones, pastor, will erect building; brick veneer; cost \$15,000.

La., Abbeville.—Catholic Church, Mauriceville, 10 mi. from Abbeville, will erect \$9000 building. Address The Pastor.

Okla., Cleveland.—Methodist, Episcopal Church has plans by L. H. Babcock, Bartlesville, Okla., for building; about 48x60 ft.; brick veneer; probably asphalt shingle roof; hot-air heat, coal and gas fuel; electric lights; cost \$7000; probably open bids in about 60 days. (Lately noted.)

Tenn., Knoxville.—First Baptist Church, Dr. Len G. Broughton, Pastor, has plans by Charlie Barber, Knoxville, for building; gray brick; Corinthian columns; main auditorium to seat 1500. (Previously noted.)

Tenn., Port Arthur.—Catholic Mission is having plans prepared by Babin & Beck, Beaumont, for building; 1 story; frame; cost \$3000.

CITY AND COUNTY

Ala., Bessemer—Jail.—Jefferson County Comrs. will erect courthouse and jail. (See Courthouses.)

Ark., Blytheville—City Hall.—City is having plans prepared by J. E. Shane, Paragould, Ark., for city hall; about 80x40 ft.; 2 or 3 stories; brick or stone; fireproof roof; concrete floors; city lighting; will install

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jail cells; concrete sidewalks around structure; bids opened soon; J. L. Pattiello, Chmn. Street Com. and Building Com. (See Machinery Wanted — Heating Plant: Jail Cells.)

Ga., Atlanta—Comfort Station.—City is considering erecting from 4 to 6 public comfort stations; cost \$5000 to \$6000 each; plans by C. E. Kaufman, City Engr.

Mo., Aurora—City Hall.—City voted \$25,000 bond to erect city hall; B. W. Dillard, City Clerk. (Lately noted.)

Mo., St. Louis—Stables.—City will not vote this Fall on \$100,000 bond issue for fireproofing city stables. (Lately noted to vote on bond issue Nov. 6.)

Okla., Bristow—City Hall.—City is having plans prepared by Trapp & Weaver, Oklahoma City, for city hall. (Lately noted to have voted \$30,000 bonds.)

Okla., Tulsa—Detention Home.—Lewis Cline, County Clerk, Courthouse, Tulsa, receives bids until Sept. 17 to erect addition to Detention Home for Children; plans and specifications at office Geo. Winkler, Archt., 44-45 Palace Bldg., Tulsa.

8. C., Columbia—Comfort Stations.—City has plans by T. K. Legare, City Engr., for construction of public comfort stations in basement of city hall and old police headquarters building.

Tenn., Knoxville—Jail.—Knox County Jail Com., J. W. Line, Chmn., has plans for improvements to jail, to include 3 prison floors resurfaced with concrete, alterations to walls, cages and other iron parts of building, repainted, install shower baths, etc.; cost \$3000; contract let Sept. 7.

Tenn., Knoxville—Jail.—Knox County Jail Com., J. W. Line, Chmn., will have plans prepared for improvements to jail.

Tex., Dallas—Pavilion.—City Comms. are considering erecting floating pavilion at White Rock.

Tex., Waco—Comfort Station.—City Commissioners will erect number of comfort stations; stucco; Bryant Allen in charge of construction.

COURTHOUSES

Ala., Bessemer.—Jefferson County Comms. are having plans prepared by H. B. Wheelock, Birmingham, for courthouse; 2 stories with jail on top; 130x70 ft.; brick and marble; cost \$100,000. (Previously noted.)

DWELLINGS

Ala., Atalla.—Attalla Realty Co. purchased about 300 lots and will erect number of dwellings.

Ark., Bentonville.—Linebarger Bros. Realty Co., Dallas, Tex., will erect cottages. (See Miscellaneous.)

D. C., Washington.—John L. Knapp has plans by W. S. Plager, 2015 Kearney St. N. E., Washington, for dwelling, 180x44 Law-
rence St. N. E.; cost \$5000.

D. C., Washington.—H. R. Howenstein, 134 F St. N. W., will erect 5 dwellings at 50-300 S. Washington Ave. S. E.; 2 stories and cellar; brick; tin roofs; pine floors; hot water heat; electric lighting; total cost \$12,000. (Lately noted.)

Fla., Vero.—H. C. Sherwood, Bridgeport, Conn., is reported to erect \$12,000 dwelling.

Fla., Vero.—Mrs. W. E. Riggs, Toledo, Ohio, is reported to erect residence.

Ga., Atlanta.—M. E. and E. L. Pritchard will erect 2-story 1-room brick-veneer dwelling; cost \$6000.

Ga., Atlanta.—J. D. Lee will erect dwelling; 6 rooms; frame; cost \$3000.

Ga., Atlanta.—M. G. Norris will erect one-story brick-veneer bungalow; cost \$6500; construction by owner.

Ga., Atlanta.—Owen C. McConnell will erect 2-story brick-veneer dwelling; cost \$6500.

Ga., Atlanta.—Mrs. Lillian Disbro will erect 1-story frame dwelling; cost \$2500; day labor.

Ga., Hartwell.—R. C. Linder will erect dwelling.

Ga., Hartwell.—R. E. Mathewson will erect residence.

Ga., Harlem.—G. B. Bynum has plans by Bleckley & Irwin, Augusta, for 10-room residence; Ionic columns; day labor. Address architects. (See Machinery Wanted.)

Ga., Macon.—E. B. Weatherly is having plans prepared by Happ & Shelverton, Fourth, National Bank Bldg., Macon, for dwelling in Vineville; hardwood floors; tile baths; cost \$7000.

Ga., Thomson.—G. W. Lokey will erect residence.

Ga., Vinings.—W. A. Thacher will erect residence to replace structure lately noted damaged by fire; 22x48 ft.; stone; metal roof; wood floors; electric lights, generated by waterpower; cost \$4000; hot-air heat, \$150.

La., New Orleans.—Burton & Bendoragle, New Orleans, prepared plans for bungalow on Napoleon Pl.; 5 rooms, bath, sleeping porch; hot-air heat.

La., New Orleans.—I. Singer will erect 2-story residence; cost \$4000.

Md., Baltimore.—Frank Novak Realty Co. is having plans prepared by Callis & Callis, 265 Kennedy Ave., Baltimore, for 10 dwellings on South side Wolf St. at Clifton Ave.; 14.6x55 ft.; brick; tin roofs; cost \$1500 each. (Lately noted.)

Miss., Brandon.—J. C. White is having plans prepared by N. W. Overstreet, Jackson, Miss., for residence. (Lately noted.)

Miss., Clarksdale.—Dr. J. E. Bramlett has plans by M. M. Alsop, Clarksdale, to erect residence; frame with brick veneer; composition roof; wood floors; cost \$8000; hot-water heat, \$1200; lighting, \$800 (Fairbanks-Morse storage battery). Address architect. (Lately noted.)

Miss., Clarksdale.—J. A. Martin has plans by M. M. Alsop, Clarksdale, for dwelling; frame; composition roof; wood floors; hot-water heat; cost \$8000. Address Archt. (Lately noted.)

Miss., Merigold.—Mrs. J. C. Jones lets contract Sept. 10 to erect dwelling; 2 stories; 8 rooms; frame and brick veneer; asphalt shingle roof; wood floors; cost \$8000; hot-water heat, \$750; electric lighting; alter 1-story cottage; M. M. Alsop, Archt., 615 McWilliams Bldg., Clarksdale, Miss., may be addressed. (Lately noted.)

Miss., Ruleville.—Miss Floyce Rule has plans by M. M. Alsop, 615 McWilliams Bldg., Clarksdale, Miss., for residence; frame; asphalt shingle roof; wood floors; electric lighting; cost \$8000; hot-water heat, \$1000; McWilliams Bldg., Clarksdale, Miss., may be addressed. (Lately noted.)

Mo., Kansas City.—Pearl Arnold will erect 3-story triplex dwelling; brick; cost \$12,000.

Mo., Kansas City.—Dr. C. A. Jackson will erect 2-story frame dwelling; cost \$4000.

Mo., Kansas City.—J. Bruening, V.-P. of Bruening Bros. Automobile Co., will erect residence on Holmes St.

Mo., Kansas City.—Robt. E. Stone, Secy. of Stone Bros. Mfg. Co., will erect residence at 1217 59th St.

Mo., Kansas City.—F. B. Durham will erect 1-story frame dwelling; cost \$2500.

Mo., Kansas City.—C. A. Price will erect 2-story stucco-veneer dwelling; cost \$3000.

Mo., Kansas City.—Geo. E. Nicholson will erect stucco and tile dwelling; 2 stories; cost \$40,000.

Okla., Oklahoma City.—McKinney & Rhodes will erect 1-story frame dwelling.

S. C., Greenville.—J. C. Milford will erect \$3000 dwelling.

S. C., Greenville.—F. J. Stover will erect 2 residences; 1 and 2 stories; cost \$5000.

S. C., Oliver.—H. E. Ezell has plans by E. Lynn Drummond, 16 Bryan St., Savannah, Ga., for remodeling residence.

Tex., Benmont.—M. J. Elberts has plans by Babin & Beck, Beaumont, for dwelling; colonial style; frame; slate roof; cost \$9000.

Tex., San Antonio.—H. C. Thorntman will erect three 5-room and two 6-room dwellings; cost \$7500.

W. Va., Charleston.—C. F. Zimmerman, Solo Bldg., has plans by W. B. Camp, 1301 Union Trust Bldg., Charleston, to erect dwelling; bungalow type; 26x30 ft.; 1½ stories; asphalt shingle roof; city gas heating; gas and electric lighting; cost \$5000; bids opened Sept. 1. Address owner.

GOVERNMENT AND STATE

Fla., Jacksonville—Training Camp.—Quartermaster General's Department, Washington, D. C., will erect quartermasters' training camp at Black Point, 8 mi. from Jacksonville; Col. I. W. Littell, Washington, in general charge.

Ky., Louisville—Postoffice.—Treasury Department, Jas. A. Wetmore, Acting Supervising Archt., Washington, D. C., opened bids to erect postoffice; A. W. Lane, 19 S. La Salle St., Chicago, low bidder at \$27,764 if wood columns are used and \$28,496 for steel columns. (Previously noted.)

La., Lake Charles—Aviation Camp.—War Department, Washington, D. C., will erect 30 dwellings for aviation camp of 2 units; each unit requires 12 hangars; Capt. C. T. Waring in charge of construction.

Miss., Hattiesburg—Remount Station.—War Department, Washington, D. C., will erect remount station at Camp Shelby to accommodate 45,000 horses and mules; under direction of Capt. J. A. Degan, Quartermaster Corps, U. S. Army; also install incinerators; \$100,000 brick required; construction in charge of Major Wm. J. Howard.

HOSPITALS, SANATORIUMS, ETC.

Ky., Louisville.—Nazareth Literary & Benevolent Institute will expend \$5000 for alterations to brick hospital.

Miss., Magee.—Mississippi Tuberculosis Sanatorium will call for bids for erection of matron's home, nurses' quarters, sewerage and water systems, etc., in addition to buildings lately erected; Dr. W. S. Leathers, executive officer of State Board of Health, Jackson, Miss.

Tex., Abilene.—Dr. J. M. Alexander and associates will erect \$30,000 hospital.

W. Va., Huntington.—Huntington General Hospital, Dr. J. W. Rader, Supt., will remodel present structure of 42 rooms and erect addition for surgical department, nurses' home and number of rooms or remodel and erect addition to Lamley Apartments. (Previously noted.)

HOTELS

Fla., Sarasota.—John Ringling is reported to erect hotel at Cedar Point.

Fla., Moore Haven.—V. Gram will erect hotel.

Ga., Macon.—Plaza Hotel, J. Frank Powell, Prop., will expend \$5000 for alterations.

Miss., Hattiesburg.—Hotel Shelby, H. L. Darden, Mgr., will expend \$10,000 for improvements to building.

Mo., Baxter.—Stock company organized and will erect \$40,000 hotel at Picher; brick; 2 stories; 100x100 ft.; 60 rooms; 30 rooms with bath; Dr. E. L. Connell, Picher, Chmn., Bd. of Directors.

Mo., St. Louis.—Federal Hotel & Real Estate Co., organized with \$600,000 capital, will expend \$200,000 to remodel Victoria Bldg. for hotel; 450 rooms.

Tex., Amarillo.—Porter A. Whaley, Secy. of Board of City Development, is interested in promotion of hotel; minimum cost \$250,000.

MISCELLANEOUS

Ark., Bentonville—Resort.—Linebarger Bros. Realty Co., Dallas, Tex., will erect 1 to 4-room summer cottages and one 15-room sleeping apartment at Bella Vista, Tex., near Bentonville; native oak construction, sawed near property; clap board roof; pine floors; hydro-electric lighting from plant already constructed; cost \$8000 to \$10,000; construction to begin about January 1; plans and construction by owner. (Lately noted.)

Fla., Monticello—Stable.—L. O. Benton is having plans prepared by Happ & Shelverton, Fourth National Bank Bldg., Macon, Ga., for sales stables; 60x60 and 45x140 ft.; brick walls; concrete foundations; mill construction; composition roof.

Ga., Atlanta—Fair.—Southeastern Fair Association will double size of exhibit building for cattle and hogs; cost \$7500.

La., New Orleans—Fair.—National Farm & Live Stock Show, 314 Hibernia Bank Bldg., New Orleans, is erecting Merchants and Manufacturers building; 200x157 ft.; frame; cloth rubber roof; wood floors; electric lighting; cost \$6000; being built on straight time and material; plans by and construction under supervision of Edw. Hecht, Fair Grounds. (Lately noted.)

Md., Cumberland—Clubhouse.—K. O. G. Club will erect clubhouse near Cumberland; Walter M. Fuller, Chmn. Com.

N. C., Charlotte—Bowling Alley, etc.—Cantonton Amusement Co. will erect bowling alley, billiard and poolroom, etc. (See Theaters.)

N. C., Gastonia—Fair.—Gaston County Fair Association will erect exhibit buildings, two 60x25 ft. and one 45x80 ft.; also erect additions to pig, horse and cattle barns.

Okla., Ringling—Orphanage.—Oklahoma Orphanage & Benevolent Association, M. E. Harris, Supt., will erect orphanage to replace structure damaged by fire.

RAILWAY STATIONS, SHEDS, ETC.

S. C., Columbia.—Piedmont & Northern Ry., E. Thomason, V.-P., Charlotte, N. C., will erect station at Camp Wadsworth.

Tenn., Union City.—Railroad Com. authorized Mobile & Ohio R. R., B. A. Wood, Chief

Engr., Mobile, Ala., and Nashville, Chattanooga & St. Louis Ry., H. McDonald, Chief Engr., Nashville, Tenn., to erect union station.

Tex., Wallis.—Gulf, Colorado & Santa Fe Ry., F. Merritt, Chief Engr., Galveston, will erect passenger station; cost \$685.

W. Va., Mullens.—Virginia Railway, H. Fernstrom, Chief Engr., Norfolk, Va., will repair passenger and freight depots.

W. Va., Clarksburg.—Monongahela Valley Traction Co., O. L. Harrison, Local Agent, will erect addition to recently-completed terminal for dispatcher's office.

SCHOOLS

Ala., Cloverdale.—See Ala., Florence.

Ala., Florence.—Lauderdale County will erect schools as follows: Grassley, \$4000; Green, \$4000; Mount Bethel and Confluence, \$1800 each; Union and Red Cross, \$1000 each; Powell School (addition), \$1000; Waterloo, \$5000; Cloverdale \$4000; Wright (addition), \$1000; Blackburn, \$1500. Address County Comms.

Ala., Hokes Bluff.—Etowah County will erect additions to schools in consolidated districts as follows: Hokes Bluff, 1 room; Morton's school, 2 rooms; Stephens, 2 rooms; Brans Chapel, 1 room; Burns Academy, remodeled; completion by October 1; E. P. Murphy, County Supt., Board of Education, Gadsden, Ala.

Ala., Waterloo.—See Ala., Florence.

Ark., Conway.—Board of Trustees, Arkansas State Normal School, postponed opening bids until Sept. 7 to erect administration building; 2 stories and basement; brick; John P. Almand, Archt., 117 Boyle Bldg., Little Rock. (Lately noted.)

Fla., Moore Haven.—Moore Haven School Dist. is reported to erect building. Address School Trustees.

Ga., Atlanta.—Board of Managers Georgia Training Schools for Girls will probably select architect Sept. 11 for dormitory; 2 stories; brick veneer; composition shingle roof; steam heat; electric wiring; cost \$25,000 to \$30,000.

Ga., Fort Valley.—City Board of Education is considering erection of high school; Ralph O. Newton, Supt.

Ga., Nashville.—City is considering calling election on bonds to erect addition to school building. Address The Mayor.

Ky., Covington.—City votes Nov. 6 on \$250,000 bonds for schools; W. A. Shore, Business Director. (Lately noted.)

Md., Baltimore.—Goucher College has plans by Ellicott & Emmart, Union Trust Bldg., Baltimore, for Bennett Hall dormitory; 2 stories; 36x63 ft.; bids opened Sept. 6; contractors estimating are: B. F. Bennett Bldg., Co., 123 S. Howard St.; G. Waller Tovell, Eutaw and McCulloch Sts.; Willard E. Harn Co., 213 N. Calvert St.; Cowan Bldg., Co., 106 W. Madison Ave. and 36th St.; John Waters Bldg., Co., 23 E. Center St.; all of Baltimore. (Lately noted.)

Miss., Magnolia.—Leggett Consolidated School District voted \$3000 bonds to erect and equip school building and teachers' home. Address School Trustees. (Lately noted.)

Miss., Pascagoula.—Dedueux Consolidated School Dist. will erect building. Address County Board of Education, Pascagoula.

Miss., Prairie.—School Board will erect 2-story brick high school; provide athletic field, etc.

Miss., Union.—Union Consolidated School Dist. has plans by Emmett J. Hull, Jackson, Miss., for school building; 2 stories; frame; shingle roof; 4 classrooms and auditorium; cost \$3500; bids being received.

Okl., Chickasha.—Graded School Dist. No. 1 will issue bonds to erect school building. Address Graded School Dist. Trustees.

Okl., Stafford.—Consolidated School Dist. No. 3 has plans by Hawk & Parr, Oklahoma City, and First State Bank, Clinton, Okla., for 2-story brick school building; bids opened; voted \$12,000 bonds.

Okl., Tar River.—Tar River School Dist. voted school bonds. Address Dist. School Trustees.

S. C., Saluda.—Saluda School Dist. Building Com., T. B. Mathews, Secy., will erect grammar and high school building; 11 classrooms; brick; tin roof; hardwood floors; steam heat; electric lighting; cost \$16,000; Wilson & Sonopayrac, Archts., Columbia, S. C.; contract will not be let before next year. Address Mr. Mathews. (Previously noted.)

Tenn., Alamo.—Crockett County voted \$10,000 bonds to enlarge high school. Address County Comrns.

Tenn., Kingsport.—City has plans by D. R. Beeson, Johnson City, Tenn., for school building; 170x100 ft.; 2 stories and basement; partly fireproof; tar and gravel roof; concrete corridor floors, wood elsewhere; indirect steam heat; electric lighting; cost \$50,000; bids opened Sept. 4. Address W. R. Pouder, City Manager, Kingsport. (Lately noted.)

Tex., Beaumont.—St. Anthony's Catholic Parochial School has plans and will soon call for construction of school building; hollow tile and stucco; fireproof; 2 stories; 8 classrooms; 2 steel fire escapes; cost \$18,000; Babin & Beck, Archts., Beaumont.

Tex., Chandler.—W. L. Culberson, Secy. School Board Chandler Ind. School Dist., receives bids until Sept. 10 for material and erection of school; plans and specifications at office First State Bank.

Tex., Elroy.—School Board, Henning Johnson, Chrmn., care of Roy L. Thomas, Archt., Scarborough Bldg., Austin, receives bids until Sept. 6 to erect brick school building; plans and specifications at office of Mr. Thomas.

Tex., Crosby.—Common School District No. 17 will repair and repaint high school; also erect 1-room school; bids opened; J. W. Lyle, Harris County Supt. Board of Education, Houston.

Tex., Rockwall.—Rockwall School Dist. voted \$18,500 bonds for school improvements. Address Dist. School Trustees.

Tex., Rosser.—School Trustees receive bids addressed to W. P. Robertson, Prest. School Board, until Sept. 10 to erect 2-story brick school; plans and specifications at office J. B. Zink, Terrell, Tex., and W. P. Robertson, Rosser.

Tex., Carlsbad.—George J. Bird, Vice Chrmn., San Angelo National Bank, San Angelo, Tex., receives bids until Sept. 20 to erect 2 dormitories, laundry, superintendent's residence, nurses' home and storehouse at Carlsbad Tuberculosis Sanatorium; all reinforced concrete; \$250,000 available; separate bids on plumbing, heating and wiring; plans and specifications at office Sanguinetti & Staats, Archts., Fort Worth. (Previously noted.)

Va., Mountain View, P. O. at Crest.—Newbern District School Board receives bids until Sept. 15 to erect 2-room school; plans and specifications at office H. L. Wysor, County Clerk, Pulaski, Va.

W. Va., Adamstown.—J. C. Timberman, Secy. Board of Education Coal Dist., Harrison County, receives bids care of Holmboe & Lafferty, Archts., Empire Bldg., Clarksburg, W. Va., until Sept. 19 for material and erection of high school; separate bids for plumbing, sewerage, gas fitting and electrical work, also separate bids for heating and ventilating system; drawings and specifications at office architects as above.

W. Va., Burnsville.—Burnsville Ind. School Dist., Braxton County, votes Sept. 15 on \$20,000 bonds to erect high school; W. C. Hefner, Prest.; Board of Education, W. B. Golden, Supt., Flatwoods, W. Va., of Salt Lick Dist. receives bids until Sept. 15 to erect schools as follows: 1-room building at Wright Stout's below Burnsville; addition to Coger School; 2-room addition to Bower School; plans and specifications at office Mr. Golden.

W. Va., Logan.—Board of Education of Logan Dist. receives bids Sept. 8 for material and erection of following schools: 2-room buildings at McConnell and near Dehue on Rum Creek and 1-room structure on west side river, near Lyburn, together with suitable coalhouses, outhouses, etc., with each house; plans and specifications at office County Supt. of Schools, and Chas. Avis, Secy. Board of Education.

W. Va., Slab Fork.—Slab Fork Dist. Board of Education, H. H. Lilly, Secy., will erect 4-room school at Vanwood; bids opened.

STORES

Ala., Decatur.—A. Polytinski will erect business building; 60-ft. frontage; brick; 3 storerooms.

D. C., Washington.—National Savings & Trust Co. has plans by O. H. Miller, 807 H St. N. W., Washington, for repairs to store, 1213 F St. N. W.; cost \$625.

Fla., Jacksonville.—Atlantic Ice & Coal Co. will expend \$5000 to remodel 3-story frame building, Myrtle Ave. and Dennis St.

Fla., St. Petersburg.—Mrs. G. B. Haines will erect store building; 1 story; brick;

contain 4 storerooms; also erect 1-story addition to concrete business building on Third St.

Fla., St. Petersburg.—A. C. Phell will erect theater; several stores on lower floor. (See Theaters.)

Fla., Vero.—S. E. Twitchell will erect store building.

Fla., Vero.—Seminole Building Corporation opens bids in week or 10 days to erect store, bank and office building. (See Bank and Office.)

Ky., Hazard.—J. W. Craft will not erect business block. (Mr. Craft and others lately noted to erect structure.)

La., New Orleans.—John McCloskey will expend \$20,000 to remodel 3-story brick building, 728 St. Charles St.

La., New Orleans.—M. M. Field will erect three 1-story brick buildings; cost \$30,000.

La., Shreveport.—E. A. Frost and F. T. Whited will erect building at Texas Ave. and Crockett St.

Mo., Kansas City.—E. C. Sovy will erect brick building, 4435-41 Troost Ave.; cost \$15,000.

Mo., Kansas City.—Otto H. Hesse will erect brick business building; cost \$15,000.

Mo., St. Louis.—Consolidated Theaters Co. will erect theater and store building. (See Theaters.)

N. C., Charlotte.—J. Arthur Henderson will remodel building for stores and offices; install plate-glass front, floors, etc.; 22.5x110 ft.

S. C., Belvedere.—W. H. Rountree, North Augusta, S. C., will erect brick store building.

S. C., Greenville.—D. W. Ebaugh will erect 2-story brick business building.

S. C., Rock Hill.—White-Cherry Farms Co. will erect store building.

Tex., Amarillo.—Baker-Hann Co., Quanah, Tex., is reported to erect store building.

Tex., San Antonio.—John W. Tallaferrro will erect two 1-story business buildings; brick and tile; cement floors; plate-glass front; cost \$14,000. (Lately noted.)

Va., Norton.—Bluefield (W. Va.) Hardware Co. will erect store building.

Va., Petersburg.—Century Amusement Co. will erect store and theater building. (See Theaters.)

W. Va., Adamstown.—J. C. Timberman, Secy. Board of Education Coal Dist., Harrison County, receives bids care of Holmboe & Lafferty, Archts., Empire Bldg., Clarksburg, W. Va., until Sept. 19 for material and erection of high school; separate bids for plumbing, sewerage, gas fitting and electrical work, also separate bids for heating and ventilating system; drawings and specifications at office architects as above.

W. Va., Burnsville.—Burnsville Ind. School Dist., Braxton County, votes Sept. 15 on \$20,000 bonds to erect high school; W. C. Hefner, Prest.; Board of Education, W. B. Golden, Supt., Flatwoods, W. Va., of Salt Lick Dist. receives bids until Sept. 15 to erect schools as follows: 1-room building at Wright Stout's below Burnsville; addition to Coger School; 2-room addition to Bower School; plans and specifications at office Mr. Golden.

W. Va., Logan.—Board of Education of Logan Dist. receives bids Sept. 8 for material and erection of following schools: 2-room buildings at McConnell and near Dehue on Rum Creek and 1-room structure on west side river, near Lyburn, together with suitable coalhouses, outhouses, etc., with each house; plans and specifications at office County Supt. of Schools, and Chas. Avis, Secy. Board of Education.

W. Va., Slab Fork.—Slab Fork Dist. Board of Education, H. H. Lilly, Secy., will erect 4-room school at Vanwood; bids opened.

APARTMENT-HOUSES

D. C., Washington.—Mrs. Axsell Wichfeld let contract to D. E. Nichol, 410 Real Estate Trust Bldg., Washington, D. C., to erect 4-story and basement addition to building, 1746 Massachusetts Ave. N. W., for scullery, pantry and sewing-rooms; 16x32 ft.; fireproof; tile roof; tile and rubber tile floors; steam heat; vault lights on roof; cost \$19,000.; J. H. de Sibour, Archt., 1603 K St. N. W., Washington. Address contractor. (Lately noted.)

Fla., Vero.—Paul Brundt let contract to erect store building with offices and apartments above. (See Stores.)

Fla., West Palm Beach.—Mrs. Jeanette Freedman let contract to B. F. Hoffman, Palm Beach, to erect store and apartment-house; stucco; 4 stores on main floor; twelve 5-room apartments on second floor; cost \$50,000.

Ga., Atlanta.—John F. Calhoun let contract to M. A. Harris, Atlanta, to erect apartment-house; 2 stories and basement; brick veneer; tar and gravel roof; cement, tile, pine and hardwood floors; steam heat; flexible cable wiring and fixtures; 4 apartments of 4 rooms; cost \$7500.; M. F. Morris, Archt., 525 Atlanta National Bank Bldg., Atlanta. (Lately noted.)

Ga., Atlanta.—J. S. and C. R. Collins, 714 Empire Bldg., Atlanta, have contract to erect apartment-house at 78 Briarcliff Rd.; 2 stories; 8 apartments; brick veneer; tar and gravel roof; hardwood and pine floors; cost \$30,000.; one-pipe gravity system of heat, about \$2800.; construction begun. (Lately noted.)

Mo., Kansas City.—Frank Huber has plans by and let contract to Aug. L. Huber, 302 E. 60th St., Kansas City, to erect flats at 3100-2-4-6-10 Benton Blvd.; 37 by 55 ft. each; brick and stucco; tar and gravel roof; wood joist floor and construction; steam heat; electric wiring and fixtures; concrete sidewalks; cost \$14,000 each; contracts all let and construction begun. (Lately noted.)

Va., Roanoke.—Norfolk & Western Ry. J. E. Crawford, Ch. Engr., Roanoke, let contract to erect addition to office building; 51x56 ft.; 6 stories; fireproof; buff brick; cost \$70,000.

Mo., Kansas City.—Frank Huber has plans

by and let contract to Aug. L. Huber, 302 E. 60th St., Kansas City, to erect flats at 3100-2-4-6-10 Benton Blvd.; 37 by 55 ft. each; brick and stucco; tar and gravel roof; wood joist floor and construction; steam heat; electric wiring and fixtures; concrete sidewalks; cost \$14,000 each; contracts all let and construction begun. (Lately noted.)

W. Va., Cabin Creek Junction.—Bank of Cabin Creek has plans for bank, store and office building. (See Bank and Office.)

W. Va., Fayetteville.—C. G. Janutolo ac-

quired building and will remodel; install tile floor in storeroom, 30x50 ft.; repair heating system and install new furnace.

W. Va., Huntington.—Aleshire-Harvey Co. will erect 2-story business building to be leased by J. L. Cook Hardware Co.; 40x160 ft.; brick; cost \$25,000; construction under supervision of owners.

W. Va., Logan.—Lewis Furniture Co., Huntington, W. Va., has plans by L. J. Dean, Huntington, for 3-story brick store.

THEATERS

Fla., St. Petersburg.—A. C. Phell has plans by W. S. Sholl, St. Petersburg, for moving-picture theater; brick; plate-glass front for first story; seating capacity 800; several stories on lower floor; apartments above.

La., New Orleans.—John McCloskey will expend \$20,000 to remodel 3-story brick building, 728 St. Charles St.

Mo., New Orleans.—M. M. Field will erect three 1-story brick buildings; cost \$30,000.

La., Shreveport.—E. A. Frost and F. T. Whited will erect building at Texas Ave. and Crockett St.

Mo., Kansas City.—Otto H. Hesse will erect brick business building; cost \$15,000.

Mo., St. Louis.—Consolidated Theaters Co., Holland Bldg., W. Goldman, Prest., will erect theater and store building; 2 stories; 70x146 ft.; estimated cost \$75,000.

Mo., St. Louis.—Century Amusement Co., Center Sq. Walter Sachs, Prest., has plans by C. K. Bryant, Craig & Isbell, Leigh Bldg., Petersburg, for theater and store building; 1 story; 50x136 ft.; fireproof.

Mo., St. Louis.—Consolidated Theaters Co., Holland Bldg., W. Goldman, Prest., will erect theater and store building; 2 stories; 70x146 ft.; estimated cost \$75,000.

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sional unit for troops, including infantry, artillery and engineers completed; construction of hospital and remount depot in progress; general contractor let sub-contracts to Tucker & Laxton, Charlotte, for electrical wiring; is also constructing system of roads and streets and installing water system, including pumping station and two 200,000-gal. storage tanks and towers. (Lately noted.)

S. C., Charleston—Storehouses.—Bureau of Yards and Docks, Navy Department, F. R. Harris, Chief, Washington, D. C., let contract at \$117,000 to Simons-Mayrant Co., Charleston, to erect 3 storehouses; steel frames and reinforced concrete; concrete foundations; terra-cotta tile walls; asbestos shingle roofs; will soon let contract to erect 4th structure at cost \$200,000 to \$300,000. (Lately noted in part.)

Tenn., Millington—Aviation School.—War Department, Washington, D. C., let contract to Thomas Harmon Co., St. Louis, to erect buildings near Millington for aviation school; cost \$750,000; J. Paul Gaines, Engr., Memphis. (Lately noted.)

Tex., Austin—State Colony.—Board of Managers, State Farm Colony for Feeble Minded, let contract to A. A. Mundt to erect barns and sheds; 63x134 ft.; frame; Pariol roofing; cost \$6000; construction to begin immediately; Keuhne, Chasey & Glecke, Archts., 811 Littlefield Bldg., Austin. (Lately noted.)

Tex., Dallas—Aviation Camp.—War Department, Washington, D. C., let contract to Hedrick Construction Co., Dallas, to erect buildings for aviation camp and repair plant; estimated cost \$1,000,000.

Tex., Dallas—Quarantine Station.—War Department, Washington, D. C., let contract to Weston & Kroeger, San Antonio, to erect quarantine station.

Tex., Fort Worth—Aviation Camp.—War Department, Washington, D. C., let contract to J. W. Thompson Construction Co., St. Louis, to erect 2 Canadian aviation camps. (Lately noted.)

Tex., Sabine Pass—Quarantine Station.—State Board of Health let contract to Weston & Kroeger, San Antonio, to erect quarantine station; 80x80 ft.; reinforced concrete with curtain walls of brick and hollow tile; reinforced concrete piling; composition roof; concrete floors covered with tile; steam heat; electric-light plant in building; first floor for cyanide-room, disinfecting-room, autoclave room, shower baths and offices; second, crew's quarters and lookout; cost \$5,000; Charles T. Boelhauwe, Archt., San Antonio. (Lately noted.)

Tex., Wichita Falls—Aviation Camp.—War Department, Washington, D. C., let contract to Gilsonite Construction Co., Dallas, to construct aviation camp.

Tex., Waco—Aviation Camp.—War Department, Washington, D. C., let contract to Fred. A. Jones Construction Co., Dallas, to construct 53 buildings for aviation camp at Camp MacArthur; cost \$750,000 to \$1,000,000.

HOSPITALS, SANATORIUMS, ETC.

N. C., Charlotte.—War Department, Washington, D. C., let contract to erect hospital at Camp Greene. (See Government and State.)

Va., Staunton.—Staunton Military Academy let contract to erect infirmary. (See Schools.)

HOTELS

Md., Baltimore—Stafford Hotel, John P. Boyle, Mgr., let contract to John E. Marshall & Son, 121 Mercer St., Baltimore, for improvements to hotel to include alterations to interior and installation of 15 bathrooms; cost \$20,000. (Lately noted.)

MISCELLANEOUS

Fla., Crystal Springs—Pavilion.—Charles Soper, Crystal Springs, has contract to erect pavilion near springs; 32x40 ft.; recreation hall, kitchen, storage-room and 3 dressing rooms.

Fla., St. Petersburg—Restaurant.—Geo. W. Cooper let contract to Bryan & Snider, St. Petersburg, for alterations to building to be occupied by Mexis Restaurant, to include stairway and addition to dining-room; cost \$100.

Md., Cumberland—Bowling Alley, etc.—Diamond Bowling Alleys, Howard Chaney and A. P. Caldwell, Props., let contract to erect fireproof building; 2 stories and basement; brick, steel and stone; floors reinforced with steel girders; front of first story enclosed with steel and glass; storeroom in basement; first floor for Diamond Bowling

Alleys; second, for amusement purposes and convention hall.

S. C., Seabrook Island—Clubhouse.—Kia-wato Company, Charleston, S. C., let contract to Simons-Mayrant Co., Charleston, to erect clubhouse; 70x100 ft.; frame; cedar shingle roof; cost \$6000.

RAILWAY STATIONS, SHEDS, ETC.

Va., Roanoke.—Norfolk & Western Ry. let contract to erect addition to office building. (See Bank and Office.)

SCHOOLS

Ala., Lewisburg—Jefferson County Board of Education, Birmingham, let contract to erect 2 schools; D. O. Whilldin, Archt., 501-02 Title Guarantee Bldg., Birmingham; also receiving bids to erect school at Majestic to cost \$18,000. (Lately noted.)

Ark., Magnolia—Magnolia Special School Dist., J. O. Hutchison, Secy., let contract to H. E. Monk, Pine Bluff, Ark., to erect high school building; 124 by 126 ft.; 2 stories and basement; brick; cement basement floor; other floors, yellow pine; cost about \$60,000; Clyde A. Ferrell, Archt., Little Rock; let contract for plumbing and heating to Pettit & Galloway Co., Little Rock. (Lately noted.)

Miss., Biloxi—City let contract to Byrd Enochs, Biloxi, to erect 3-story addition to school building; brick; Barrett roof; wood floors; city lighting; cost \$18,000; Nolan & Torre, Archts., 1023 Hennen Bldg., New Orleans; contractor let sub-contract to Cooper-Green Co., Gulfport, Miss., at about \$2000, to enlarge heating plant. (Lately noted.)

N. C., Boone—Appalachian Training School let contract to erect 50-room dormitory for men; 6-room toilet, 6 hot and cold baths and swimming pool proposed; bids for fixtures desired. Address D. D. Dougherty, Boone. (Lately noted.)

N. C., Greenville—Trustees East Carolina Teachers Training School let contract to W. B. Barrow, Raleigh, to erect building; 4 rooms on second floor; first floor completed; brick and wood; wood floors; low pressure steam heat; cost \$17,000; Willard G. Rogers, Archt., Charlotte; Robt. H. Wright, Prest. (Lately noted.)

S. C., Columbia.—Building Committee, University of South Carolina, August Kohn, Chrmn., let contract at \$22,351 to Harbeck & Heslep, Columbia, to erect law building; plans by Edwards & Sayward, Atlanta, call for 2 stories; 59x79 ft.; exterior, red brick; light buff limestone trim; interior, reinforced concrete; hollow tile partitions; stone panels at base second story windows; 3 classrooms, moot courtroom, library, etc.; Barrett specification roof; also let contract to W. B. Guimarin & Co., Columbia, for heating and plumbing. (Lately noted.)

S. C., Mt. Pleasant—School Board has plans by Walker & Burden, 42 Broad St., Charleston, S. C., and let contract on 10 per cent. basis, to Marion S. Hay, also of Charleston, to erect school 6 mi. from Mt. Pleasant; 1 story; frame; tin roof; wood floors; stoves; cost \$3500. Address Archts. (Lately noted.)

Tex., Cleburne—Greenfield School Dist. let contract to J. H. Nevill, Godley, Tex., to erect school; cost \$3200; will also erect teacher's home; \$4000 bonds voted.

Va., Staunton.—Staunton Military Academy let contract to F. L. Yount, Staunton, to erect infirmary, 36x70 ft.; frame; asphalt shingle roof; wood floors; steam (direct) heat; electric lighting; cost \$6000; T. J. Collins & Son, Archts., Staunton. (Lately noted.)

W. Va., Clarksburg—Clark District Board of Education let contract to Henry Haste-bacher, Clarksburg, to erect school building on Custer School premises; 32x59 ft.; frame; asphalt shingle roof; wood floors; one-room heaters; cost \$4000; Holmboe & Lafferty, Archts., Clarksburg. (Lately noted.)

STORES

Fla., Moore Haven—J. J. O'Brien & Putnam let contract to Moore Haven Improvement Co., Moore Haven, to erect department store; 50x80 ft.; addition 20x20 ft.; 2 stories; concrete; tar and gravel roof; concrete floors; electric lights; concrete sidewalks; freight elevator; cost \$10,000; V. Gram, Archt., Moore Haven. (See Machinery Wanted—Elevator; Reinforcing Iron; Windows.)

Fla., Vero—Paul Brundt let contract to Even & Brunen, Vero, to erect store building; 2 stories; 53x125 ft.; first floor, concrete; second, stucco; 2 stores on first floor;

offices and apartments above; cost \$12,000. (Lately noted.)

Fla., West Palm Beach.—Mrs. Jeanette Freedman let contract to erect store and apartment house. (See Apartment-house.)

Ga., Macon.—Mrs. L. D. Newman let contract to S. F. Fulghum & Co., Macon, to erect three 1-story 2-store buildings; one, 27x80 ft.; other two, 27x60 ft.; brick; plate-glass fronts; composition roofs; cost \$12,000.

Ga., Waycross.—W. D. O'Quinn let contract to erect 2 concrete storerooms.

Md., Cumberland—Diamond Bowling Alleys let contract to erect building; storeroom in basement. (See Miscellaneous Structures.)

Tex., Beaumont—T. H. Langham let contract to Herman Weber, St. Louis, to erect addition to building occupied by Phoenix Furniture Co., 3 stories; brick.

Va., Portsmouth—Joseph A. Parker Estate let contract to J. N. Harris, Port Norfolk, Va., to erect 2-story brick business building to replace structure previously noted damaged by fire; composition roof; concrete and wood floors; steam heat; electric lighting; electric elevator; cost \$16,000.

W. Va., Charleston—J. E. Nichols, St. Albans, W. Va., let contract to H. B. Agstein & Son, Charleston, to erect building for 2 stores and 2 flats; 35x90 ft.; 2 stories; asphalt and gravel roof; city gas heating; gas and electric lighting; cost \$7500; W. B.

Camp, Archt., 1301 Union Trust Bldg., Charleston. Address owner or contractor.

W. Va., Clarksburg.—T. J. Lynch & Co. let contract to erect addition to Lynch building for W. L. Morrison Store Co.; 50x27 ft.; 2 stories; full sized basement; brick and concrete; probably metal roof; oak floors; cost \$7000; I. F. Lowman, Archt. (W. L. Morrison Store Co. lately noted to erect this addition.)

Va., Portsmouth.—J. T. Morris let contract to L. L. Reynolds, Portsmouth, to install front and erect addition to store building; cost \$4967.

THEATERS

N. C., Charlotte—Cantonment Amusement Co., Incptd., with E. C. Griffith, Prest.; W. E. Thomas, V. P. and Gen. Mgr.; C. B. Bryant, Tres.; will erect moving-picture theater at Camp Greene; 60x115 ft.; seating capacity 1000; will also erect billiard and poolroom and install 10 bowling alleys; L. L. Hunter, Archt., and J. W. Campbell, Contr., both of Charlotte.

WAREHOUSES

Mo., Kansas City.—J. & S. Gotleib let contract to M. Newman, St. Louis, to erect 1-story warehouse; cost \$400.

Tex., Orange—Southern Dry Dock & Shipbuilding Co., let contract to H. N. Jones, San Antonio, to erect warehouse.

MACHINERY, PROPOSALS AND SUPPLIES WANTED

Manufacturers and others in need of machinery or supplies of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery or supplies needed we will make their wants known free of cost, and in this way secure the attention of manufacturers and dealers throughout the country. The Manufacturers Record has received during the week the following particulars as to machinery and supplies wanted.

"WANTS"

Automobile Parts, etc.—See Textile Products, etc.—Mendez y Rodriguez.

Baling Presses (Metal Scrap; Paper).— Henry Knight & Son, Louisville, Ky.—Prices on the can baling, capacity 5 tons daily; also paper baling, 10 tons daily capacity; one each for Chillicothe, Little Rock, Atlanta and Columbia, S. C.; second-hand or new; immediate delivery; wire replies.

Boller.— Strasburg Steam Flouring Mills, Strasburg, Va.—150 H. P. marine type boiler; second-hand.

Boller.— See Generator Set.—Berkeley & Schmidt.

Boller.— See Planing Mill Equipment.—Hicks Lumber Co.

Boller.— Alliance Ice Co., Denton, Tex.—30 H. P. upright tubular boiler; good order.

Boring Machine (Post).— See Saw Table, etc.—Box 53, Spartanburg.

Boilers and Fittings (Marine).— See Incinerating Plant, etc.—Panama Canal.

Boilers.— Harvey Company, 113 South St., Baltimore, Md.—4 horizontal return tubular boilers, 72x18, 4-in. flues, with or without casing; 125 lbs. or more pressure; first-class condition; state location and price.

Boring Machine (Post).— Double Action Fertilizer Distributor Co., Lake City, S. C.—Prices on post-boring machine.—See Saw Table, etc.

Brick.— Carolina Portland Cement Co., Charleston, S. C.—Addresses of manufacturers of "Ear-lock Brick."

Bridge Construction.— Campbell County Comms., Rustburg, Va.—Bids until Sept. 17 at office of County Clerk to construct steel bridge 70 ft. long over Buffalo Creek, about 3 mi. from Evington, Va.; plans and specifications on file at Clerk's office, Rustburg, and with State Highway Com., Richmond; further information from G. P. Coleman, State Highway Commr., Richmond.

Bridge (Concrete).— Berkeley County Court, Martinsburg, W. Va.—Bids until Sept. 8 to construct 80-ft. reinforced concrete arch bridge across Opequon Creek; plans obtainable from West Virginia State Road Com., R. Parker Davis, Bridge Engr., Morgantown, W. Va.

Bridge Plans.— Escambia County Comms., J. Geo. White, Chrmn., Pensacola, Fla.—Plans and estimates, at meeting Sept. 11, for construction of bridge across Bayou Chico, Bayou Texar, Pine Barren and Eleven Mile Creek.

Cable.— Georgia Kaolin Co., Mucon, Ga.—1000 ft. or more $\frac{1}{2}$ and $\frac{3}{4}$ -in. plow line cable or better quality; 400 to 500-ft. lengths; give particulars, prices, makes, etc.

Cans (Ice).— Fisher Machine Works Co., Leavenworth, Kan.—300-lb. standard cans for ice plant; send sample can and price.

Cars.— G. W. Shurtliff, Exchange Hotel, Montgomery, Ala.—Standard gauge street car, 30 to 45 tons.—See Railway Equipment.

Cars.— See Mining Equipment (Coal).—Leonard Coal Co.

Clay-washing Machinery.— "Clay Machinery," care of Manufacturers Record, Baltimore, Md.—Prices on second-hand clay-washing machinery, including filter press, plunger and pump.

Cloth (Curtain).— See Stage Supplies.—Beaufort Curtain Co.

Columns.— Bileckley & Irwin, Kling Bldg., Augusta, Ga.—Prices on 4 Ionic columns and two $\frac{3}{4}$ pilasters, diam. 2 ft., height 21 ft.

Corn Mill.— Sam C. Howard, Stovall, N. C.—To correspond with manufacturers of corn mills.

Cotton.— See Metals, etc.—J. R. Ithen.

Cotton Yarn, etc.— Guillen Bros., 2A Alabama Num. 57, City of Mexico.—Yarn and threads for knitting stockings and similar apparel.

Crusher (Rock).— Comms., City of Knoxville, Tenn.—Bids until Sept. 11 for rock crusher; specifications from Commr. of State.

Crusher.— Hackley Morrison, 16 $\frac{1}{2}$ N. 9th St., Richmond, Va.—Roll crusher or jaw crusher; for taking stone up to 36-in. diam. and crushing down to 6 or 8-in. diam.; capacity 150 tons per hour.

Cupola.— S. J. Stewart, 312 Carondelet St., New Orleans, La.—3 to 5-ton cupola.

Drainage.— Barbers Creek Drainage Dist., T. J. Sikes, Chrmn., Statham, Ga.—To open bids Sept. 15 to construct ditch 10 mi. long, about 8 ft. deep, bottom width 12 ft., total excavation 21,000 cu. yds.; suitable for floating dredge work; plans and specifications on file office of T. J. Sikes, Chrmn., and office of Will D. Alexander, Engr., 412 N. Graham St., Charlotte, N. C.

Dredge (Suction) or Dredging Contract.— Tatum Bros. Real Estate & Investment Co.,

Miami, Fla.—To lease or buy 10-in. suction dredge, good order, fully equipped for work at Miami; or give contract for filling 2,000,000 yds. mud and marl, payable mainly in real estate.

Electrical Equipment.—Department of Justice, office Superintendent of Prisons, Washington, D. C.—Bids to furnish and deliver, at United States Penitentiary, Leavenworth, Kan., material required for electric light, telephone and clock installations; copies of specifications, etc., upon application.

Electrical Equipment.—De Ridder Light & Power Co., W. F. McCammon, Secy., Beaumont, Tex.—150 K. W. A. C. generator, 60 cycle, 3 phase, direct connected to first-class steam engine; also switch board; for installation, De Ridder, La.

Electrical Machinery.—Sam C. Howard, Stovall, N. C.—To correspond with manufacturers of electrical machinery.

Electrical Machinery, etc.—Maura, Gomes, Neto & Co., Lisbon, Portugal.—Interested in electrical supplies and machinery; apparatus for electrical installation; material for lighting and illumination; motors for gas, gasoline and oil; tin plate.

Elevator.—J. J. O'Brien and Putnam, Moore Haven, Fla.—Prices on freight elevator, iron for reinforcing and fireproof windows for \$10,000 store building.

Engine.—Farmers Cotton Oil Co., Celina, Tex.—20 to 25 H. P. gasoline engine.

Engine.—See Planing Mill Equipment.—Hicks Lumber Co.

Engine.—G. W. Shartle, Exchange Hotel, Montgomery, Ala.—14x36 or 42 Corliss engine.—See Railway Equipment.

Engine (Automatic).—Dorchester Lumber Co., Badham, S. C.—Prices on automatic engine, 35 to 50 H. P.

Engine (Fuel Oil).—City of Sentinel, Okla., F. A. Mosher, Mayor.—Prices on 100 H. P. fuel oil engine.

Engine (Steam).—See Electrical Equipment.—De Ridder Light & Power Co.

Fire Apparatus.—City of Durham, N. C., M. M. Wilkes, City Supt.—Bids until Sept. 12 on triple combination motor fire underwriters pumping engine, 750 gals. capacity, complete with all equipment; manufacturers to submit detailed specifications, terms, deliveries, etc.

Foundry Equipment.—S. J. Stewart, 312-14 Carondelet St., New Orleans, La.—Foundry equipment and 3 to 5-ton cupola.

Generator (Electric).—H. B. Chapman, Woodstock, Va.—Second-hand D. C. belted generator; 3 to 5 K. W.; compound wound; 125 volts; 1200 to 1600 R. P. M.; to be used as exciter.

Generator (Electric).—Farmers Cotton Oil Co., Celina, Tex.—20 to 40 light generator or 2 to 3 H. P. motor.

Generator (Electric) Set.—Berkeley & Schmidt, American National Bank Bldg., Richmond, Va.—300 K. V. A., 2300-volt, 3-phase, 60-cycle generator set; direct connected or belt driven; oil or steam engine; include 300 H. P. boiler if steam outfit; also consider two 150 K. V. A. units; immediate delivery; wire data and price; confirm by letter.

Generator (Electric).—Southern Machinery Exchange, Somerset, Ky.—75 to 100 K. V. A. belted or direct connected A. C. generator, 3-phase, 60-cycle, 2300-volt or less.

Gymnasium Equipment.—Bleckley & Irwin, King Bldg., Augusta, Ga.—Prices and samples or catalogs on materials and equipment for swimming pool, gymnasium, lockers, baths, etc.

Heater (Feed Water).—Henry Potts & Co., 650 Real Estate Trust Bldg., Philadelphia, Pa.—6000 H. P. feed water heater.

Heating Plant. **J. L. Pattillo, Blytheville, Ark.**—Prices on heating plant for city hall, about 80x40 ft., 2 or 3 stories.

Hooks (Hamper).—Hammond Box & Veneer Co., Hammond, La.—3½-in. No. 16 hooks for hampers; 1000-lb. lots.

Hydrants.—City of Coyle, Okla., Roy Teal, Mayor.—Prices on hydrants. (Is installing water-works, pipe and tank, etc.)

Iron.—Morris Fertilizer Co., 801 Third National Bank Bldg., Atlanta, Ga.—Prices on iron.—See Transmission Machinery, etc.

Incinerating Plant, etc.—Panama Canal, Benedict Crowell, General Purchasing Officer, Washington, D. C.—Bids until Sept. 25 to furnish incinerating plant, marine boiler fittings and auxiliaries, marine boilers, generating set, gasoline motor, scales, circular stairs and railings, steel plates, frogs, manganese steel teeth, machine bolts, carriage

bolts, nuts, washers, rivets, shovels, stove-pipe, block tin pipe, hooks and eyes, copper nails, belt lacing hooks, blocks, leather, break band lining, rubber tires, rubber boots, buckskin gloves, saddle pads, sash cord, bunting, cork, metal polish, chalk, crayons, paper, manifolding books, file containers, wire glass, tiles, gas engine oil, waste, barrow handles and tables; blanks, etc., relating to circular (No. 1167) obtainable at this office or offices Asst. Purchasing Agents, 24 State St., New York; Audubon Bldg., New Orleans, and Fort Mason, San Francisco; also from United States Engr. offices throughout United States.

Jail Cells.—J. L. Pattillo, Blytheville, Ark. Prices on steel bars for jail cells.

Lathe (Engine).—Double Action Fertilizer Distributor Co., Lake City, S. C.—Prices on engine lathe.—See Saw Table, etc.

Lathe.—Box 53, Spartanburg, S. C.—Prices on 22-in. machine lathe.—See Saw Table, etc.

Levee Construction.—Third Mississippi River Dist., P. O. Box 404, Vicksburg, Miss.—Bids until Sept. 12 to construct 303,000 cu. yds. levee work; information on application.

Locomotives.—J. G. Tilley Co., Bristol, Va.—25 to 30-ton Shay 36-in. gauge locomotive; good condition.

Machine Tools.—Navy Department, Bureau Supplies and Accounts, Washington, D. C.—Motor-driven crank shaft lathe; 3 jarring molding machines; universal milling machine; stamping press; Schedules 1433, 1457 and 1458, respectively.

Machine Tools.—Bureau Supplies and Accounts, Navy Department, Washington, D. C.—Bids until Sept. 11 for delivering second-hand empty barrels, radial drill, crank-shaft lathe, buffing machines, molding machines and drill press at navy-yard, Philadelphia; apply for proposals to supply officer, navy-yard, Philadelphia, or to Bureau.

Machine Tools.—Bureau Supplies and Accounts, Navy Department, Washington, D. C.—Bids until Sept. 11 for delivering steel stairs and railings, steel plates, frogs, manganese steel teeth, machine bolts, carriage

saws at navy-yard, Washington; apply for proposals to the Bureau.

Manufactured Products, etc.—Fratelli Arnaldi, 52 via B. Eustachi, Milan, Italy.—To represent manufacturers of manufactured and other products.

Metals, etc.—Giuseppe Ithen, via Carducci 20, Milan, Italy.—To represent manufacturers of semi-worked metal; to import raw cotton.

Metallic Letters.—Todd Bros., Wendell, N. C.—Names and addresses of manufacturers of metallic letters, having appearance of gold; for office and store windows.

Mica-molding Machinery.—Indian Mica Co., W. G. Oehmig, Secy., 11 Montague Bldg., Chattanooga, Tenn.—Data and prices on machinery to manufacture mica.

Mining Equipment (Coal).—Leonard Coal Co., F. H. Baker, Mgr., Hazard, Ky.—Prices on steel; wire rope; drum; mining cars.

Mining Machinery (Coal).—Chas. C. Greseng, Secy., Pine Ridge Coal Co., 703 Kanawha National Bank Bldg., Charleston, W. Va.—Prices on equipment of coal-mining machinery.

Motor (Electric).—Robinson-Warwick Lumber Co., Pinehurst Bldg., Laurel, Miss.—Second-hand electric motor; 60 cycles, 3

until Sept. 14 for water-bound macadam paving and water-bound macadam treated with bituminous material, etc.; plans and specifications on file.

Paving.—City of Parkersburg, W. Va., C. A. Musgrave, City Clerk.—Bids until Sept. 11 for constructing 18,438 sq. yds. vitrified brick paving with concrete curbing; plans and specifications on file offices of City Clerk and City Engr.

Paving.—City of Floydada, Tex., W. T. Montgomery, Mayor.—Bids until Sept. 10 to grade, drain and pave certain streets; plans and specifications obtainable for \$5 from Henry Exall Elrod, Consul. Engr., Dallas, Tex.

Paving.—City of Duncan, N. C., Geo. W. Woodward, City Clerk.—Bids until Sept. 10 for street improvements; grading, draining, curbing and paving of roadways with sheet asphalt, asphaltic concrete, concrete, brick, wood block, granite block, or other material; alternate bids received on about 50,000 sq. yds. pavement and 25,000 lin. ft. curb and gutter; plans at office of and specifications obtainable from K. B. Ward, Chief Engr., Durham.

Paving.—City of St. Cloud, Fla., Fred. B. Kenney, City Clerk.—Bids until Sept. 14 for grading, paving and curbing streets; 18,000 yds. paving, 15,000 ft. curbing; curbing to be of 4x14-in. granite, 4½x12-in. cement, or combined curb 4½x12-in. and 18, 24, 30 or 36-in. gutter; vitrified brick, asphaltic concrete, asphalt macadam or cement concrete paving material.

Paving.—City of Russellville, Ala., A. J. Earle, City Engr.—Bids until Sept. 9 for constructing gravel, concrete culverts, concrete curbs, etc.; plans, specifications, etc., at office Travis Williams, City Atty.

Paving and Sewers.—City Commiss., Knoxville, Tenn., John W. Pfeniken, Commr. of Streets.—Bids until Sept. 11 for paving, grading and storm sewerage Central St. Improvement Dist. 147, Hill Ave. Improvement Dist. 112, and Third St. Dist. 16, 7025 sq. yds.; plans and specifications obtainable from J. B. McCalla, City Engr.

Paving.—P. T. Board, City Mgr., Charleston, W. Va.—Bids until Sept. 21 to curb and pave streets and alleys; 27,000 sq. yds. paving; 17,000 ft. curb and gutter; consider all well-known classes of paving; for further information address M. J. McChesney, City Engr.

Pipe.—Harvey Company, 113 South St., Baltimore, Md.—10,000 ft. second-hand 1-in. pipe.

Pipe Machine.—Geo. J. Adams, Consul. Engr., 39 South St., corner Old Slip, New York.—8-in. pipe machine to cut from 2½ to 8-in. pipe.

Pipe, etc.—Department of Justice, Office Superintendent of Prisons, Washington, D. C.—Bids until Sept. 18 to furnish and deliver, at United States Penitentiary, Atlanta, Ga., plumbing pipe, fittings and materials; copies of specifications upon application.

Pipe (Sewer).—City of Columbia, S. C., T. Keith Legare, City Engr., and R. C. Keenan, Council-Supt., Dept. of Engineering.—Bids until Sept. 25 on about 23,000 ft. 15-in. vitrified clay pipe; 2800 ft. 18-in. and 3350 ft. 15-in. reinforced concrete pipe, and 100 cast-iron manhole covers.—See Sewer Outfall Construction.

Pipe (Terra Cotta) Machinery.—H. E. Clay, Maiden, N. C.—Correspondence with manufacturers of or dealers in machinery for making terra-cotta piping.

Pipe Threader.—Truck Sales Co., Oklahoma City, Okla.—2 pipe-threading machines; for work up to 6 in.; new or second-hand; wire price, condition, make, shipping point, etc.

Phonograph Parts.—W. P. Baker, Bradley, Ark.—Correspondence with manufacturers of phonograph parts other than cabinets.

Planing Mill Equipment.—Hicks Lumber Co., W. W. Hicks, Mgr., Blakely, Ga.—Prices on planing mill outfit, boiler and engine.

Plungers (Pump).—See Clay-washing Machinery.—"Clay Machinery."

Presses (Filter).—See Clay-washing Machinery.—"Clay Machinery."

Pump (Steam).—Horse Shoe Lumber Co., River Falls, Ala.—Duplex steam pump; water cylinders to be not less than 12x12-in.; steam cylinders can be 11, 16 or 18-in.; Worthington make preferred.

Pumping Station Equipment.—Gregory Drainage Dist., J. P. Foley, Secy., Gregory Landing, Mo.—Bids until Sept. 8 to furnish following: Equipment, labor and material

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phase, 220 to 440 volt, with starter, 40 to 60 H. P.; guaranteed good running order.

Motor (Electric).—Sam'l. T. Williams, Contr. Engr., 223 N. Calvert St., Baltimore, Md.—320 H. P. electric motor, 3 phase, 60 cycle, 2200 volt, alternating current; 600 R. P. M.; transmit 300 H. P.; prefer variable speed motor that could be reversing.

Motor (Electric).—See Generator.—Farmers Cotton Oil Co.

Motors (Gas, etc.).—See Electrical Machinery, etc.—Maura, Gomes, Neto & Co.

Motor (Gasoline).—See Incinerating Plant, etc.—Panama Canal.

Motor (Pump).—City of Sentinel, Okla., F. A. Mosher, Mayor.—Prices on motor for pumping water; 25 H. P.

Oil.—See Textile Products, etc.—Mendez y Rodriguez.

Oil Refinery.—Box 1020, Wichita Falls, Tex.—To buy oil refinery, capacity 500 to 1500 bbls. daily; give full details as to size of plant offered, what system, amount and kind of tankage, etc.; expect to remove plant.

Oil Refinery Equipment.—Chickasaw Refining Co., Box 478, Ardmore, Okla.—Data and prices on machinery, equipment and appliances for refining crude oil.

Paving.—City Clerk, Athens, Ala.—Bids

for construction of foundation and sluiceway, pump station building and appurtenances; furnishing, delivery and installation of pump machinery, including two 2-in. centrifugal pumps; electrical machinery, including motors, transformers and switchboard for two 250 H. P. units; steam machinery, including engine, boilers and auxiliaries for two 250 H. P. units; two 6-ft. by 6-in. sluice gates, two 42-valves and piping; priming device for pump; traveling crane of 10-ton capacity; hydraulic instruments; furnishing equipment, labor and material for erection of pump-house operator's residence; plans and specifications from Edmund T. Perkins Engineering Co., 1210 First National Bank Bldg., Chicago, Ill., and 317-19 Illinois State Bank Bldg., Quincy, Ill., and from J. P. Foley, Secy., Gregory Landing; charge, \$20.

Rails.—See Railway Equipment.—G. W. Shartle.

Rails.—I. Gilbert, Box 306, Clarksburg, W. Va.—Quotations, stating time of shipment, on 2 mi. 16-lb., 3 mi. 20-lb., 2 mi. 25-lb. and 1 mi. 30-lb. relaying rails.

Rails.—J. G. Tilley Co., Bristol, Va.—Several tons 12, 16 and 20-lb. relayers; quote prices and point of delivery.

Railway Equipment.—G. W. Shartle, Exchange Hotel, Montgomery, Ala.—4 to 5 mi. 60 to 80-lb. rail; standard gauge street cars, 30 to 45 tons, modern and complete; 14x36 or 42 Corliss engine.

Refrigerating Plant.—Treasury Department, Supervising Archt's Office, Washington, D. C.—Bids until Sept. 28 for refrigerating plant in U. S. Marine Hospital, Key West, Fla.; copies of specifications obtainable from architect's office and office of custodian at Key West.

Road Construction.—Poinsett County Commrs. (W. J. Woodruff, B. F. Cole and A. H. Landers), Harrisburg, Ark.—Bids until Sept. 8 to construct road between Harrisburg and Truman; specifications on file with Clerk.

Road Construction.—Camp County Commissioners, Pittsburgh, Tex.—Bids until Sept. 14 to construct 2100 ft. concrete road; plans, proposal forms, etc., obtainable from M. L. Minter, County Engr., Pittsburgh.

Road Construction.—Spartanburg County Highway Commission, John A. Law, Chrmn., Spartanburg, S. C.—Bids until Sept. 12 to construct, in connection with contract No. 2, 3.8 mi. top soil road on Reidville Rd.; plans and specifications obtainable office of T. S. Perrin, Secy. Highway Commission, or office of Reid Tull, County Highway Engr.

Rope (Wire).—See Mining Equipment (Coal).—Leonard Coal Co.

Saw Table, etc.—Double Action Fertilizer Distributor Co., Lake City, S. C.—Prices on saw table; post-boring machine; engine lathe.

Saw Table, etc.—Box 53, Spartanburg, S. C.—Prices on second-hand combination saw table; post boring machine; 22-in. machine lathe; good condition.

Scale (Wagon).—M. B. Parker, 1912 Oak St., Chattanooga, Tenn.—3-ton wagon scale; second-hand if in first-class condition.

Sewer Construction.—See Paving and Sewers.—City Commrs., Knoxville, Tenn.

Sewer Construction.—Board of Public Works, Gaffney, S. C.—Bids until Sept. 4 to extend sanitary sewer system; 1 mi. 8-in. pipe, manholes, flush tanks, etc.; plans and specifications on file with Board of Public Works.

Sewer Construction.—City of Knoxville, Tenn., Robt. P. Williams, Recorder and Treas., Knoxville, Tenn.—Bids until Sept. 11 to construct sewer laterals on University and Dale Aves.; plans and specifications from J. B. McCalla, City Engr.

Sewer Outfall Construction.—Undersigned, City Council, Columbia, S. C.—Bids until Sept. 25 to construct sanitary sewer outfall, sizes 15-in. and 18-in., about 6% mi.; consider bids only from experienced contractors with equipment and organization; bids may be on lump sum contract, and on basis of cost plus fixed sum; plans and specifications at office of City Engr.; bids also received, same date, to furnish about 23,000 ft. 15-in. vitrified clay pipe, 2000 ft. 18-in. and 3350 ft. 15-in. reinforced concrete pipe, and 100 cast-iron manhole covers; specifications, etc., on application to City Engr.; R. C. Keenan, Council-Supt. Dept. of Engineering; T. Keith Legare, City Engr.

Skewer Machinery.—H. E. Clay, Maiden, N. C.—Prices on second-hand machinery for making skewers.

Stack.—Henry Potts & Co., 650 Real Estate Trust Bldg., Philadelphia, Pa.—Self contained steel plate stack not less than 110-in. diam. and 150 ft. high; full details and price in first letter.

Stage Supplies.—Beaufort Curtain Co., W. M. Bishop, Mgr., Box 224, Beaufort, S. C.—Prices on all kinds of cloth for scenic painting; also stage hardware.

Steel.—See Mining Equipment (Coal).—Leonard Coal Co.

Telephone Materials.—See Electrical Equipment.—Department of Justice.

Textile Products, etc.—Mendez y Rodriguez, Sancti-Spiritus, Cuba.—To represent manufacturers of textiles; gasoline; petroleum; lubricating oils; carbide; fertilizers; accessories and parts for automobiles and motors; porcelain and glassware.

Tent Houses.—Treasury Department, Supervising Archt's Office, Washington, D. C.—Bids until Sept. 28 for tent houses for U. S. Marine Hospital, Key West, Fla.; copies of specifications obtainable from architect and office custodian of Station.

Tin.—Bureau Supplies and Accounts, Navy Department, Washington, D. C.—Bids until Sept. 11 for delivering bright sheet tin at navy-yard, Charleston, S. C.; apply for proposals to supply officer, navy-yard, Charleston, or to Bureau.

Transmission Machinery, etc.—Morris Fertilizer Co., 801 Third National Bank Bldg., Atlanta, Ga.—Quotations on lumber, iron, transmission machinery, etc. (Company will erect plant, consisting of 3 buildings, respectively, 150x200 ft., 175x350 ft. and 100x80 ft.; also smaller buildings at Navassa, near Wilmington, N. C.)

Trucks (Motor).—City of Durham, N. C., M. M. Wilkes, City Supervisor.—To receive bids until Sept. 12 on two 3½, 4 and 5-ton heavy duty trucks, equipped with dump bodies ready for use.

Water System.—Missouri State Prison Board, W. R. Painter, Prest., Jefferson City, Mo.—Bids until Sept. 15 to construct water system for State Penitentiary; supply to be pumped from deep wells; tank to have capacity of 200,000 gals.; bidders to place their own plans with tank and pump complete, to be connected to present piping system in prison.

Water-works Construction.—City of Hamilton, Mo., A. G. Matthews, City Clerk. Bids until Sept. 17 on water system, capacity 250 G. P. M.; comprise dam, conglomeration basin, chemical plant, power-house building, pumping plant, water mains, hydrants, valves and tower; specifications with Engr., E. T. Archer & Co., Kansas City, Mo.

Water Wheels.—Sam C. Howard, Stovall, N. C.—To correspond with manufacturers of water wheels.

Wheelbarrows.—Bureau Supplies and Accounts, Navy Department, Washington, D. C.—Bids until Sept. 11 for delivering pressed-steel wheelbarrows at navy-yard, Norfolk; apply for proposals to supply officer, navy-yard, Norfolk, or to Bureau.

Wheelbarrows (Steel).—Navy Dept., Bureau Supplies and Accounts, Washington, D. C.—500 pressed steel wheelbarrows at Norfolk; Schedule No. 1450.

Wire Rope.—Roy C. Whayne Supply Co., 318 W. Main St., Louisville, Ky.—Cast-steel and plough-steel ½ and ¾, 6x19 wire rope; new and ready to ship from stock; can use lengths 300 to 1500 ft.

Frank A. Johann and L. Irving Reichner, all of Philadelphia.

STREET RAILWAYS

Ga., Atlanta.—Georgia Railway & Power Co. has authorized construction of double track extension to Camp Gordon, 3.2 mi. P. S. Arkwright is Prest.

Md., Baltimore.—United Railways & Electric Co. will build extension from Stone House Cove, probably to Masonville, Fairfield and Wagner's Point, Md., about 1 mi. Thos. A. Cross is Prest.

S. C., Columbia.—Contract is let to build double track railway extension of Columbia Railway & Electric Co. to Camp Jackson, 1½ mi. A. L. Kenyon is Gen. Mgr.

S. C., Spartanburg.—South Carolina Light, Power & Railways Co. is considering the possibility of building an extension to Camp Wadsworth. F. H. Knox is Gen. Mgr.

Tex., San Antonio.—San Antonio Public Service Co. contemplates construction of an extension to Camp Travis. W. B. Tuttle is Gen. Mgr.

FINANCIAL NEWS

The MANUFACTURERS RECORD invites information about Southern financial matters, items of news about new institutions, dividends declared, securities to be issued, openings for new banks, and general discussions of financial subjects bearing upon Southern matters.

FINANCIAL CORPORATIONS

Ark., Marked Tree.—Bank of Marked Tree has made application for charter to convert into a national bank; capital \$25,000. T. J. Sharum will be Prest. and C. E. Causey Cashier.

Fla., Pensacola.—The National Bank of Commerce of Pensacola has consolidated with the American National Bank of Pensacola; capital \$300,000.

Ga., Savannah.—Mercantile Bank & Trust Co., capital \$100,000, recently chartered, will begin business immediately on Broughton St. west of Barnard St. A. Rauzin is Prest.; H. C. Shuptrine, V.-P., and Valmore W. Lebey, Cashier.

Mo., Kansas City.—Industrial Loan & Investment Co., capital \$250,000, has begun business. W. C. Thomas, Prest.; Bert W. Brown, V.-P.; J. McKibben, Treas., and A. W. Koch, Secy.

Mo., Liberty.—Liberty Abstract & Title Co., capital \$10,000, incptd. by J. C. Copinger, L. E. Bates and J. C. Prather.

N. C., Albemarle.—First National Bank of Albemarle, capital \$50,000, has been organized and proposes to begin business about Oct. 1. D. B. McCurdy, Prest.; Dr. W. C. Fitzgerald, V.-P., and F. L. Ford, Cashier.

N. C., Charlotte.—Manufacturers' Securities Co., authorized capital \$100,000, with \$10,000 paid in, has begun business with offices in the Realty Bldg. Patrick H. Orr, Prest.; H. J. Flite, V.-P.; Wm. S. Richardson, Secy.-Treas., and Tillett Guthrie, general counsel.

N. C., Madison.—Farmers Bank & Trust Co., capital \$50,000, \$15,000 paid in, has organized by electing J. M. Vaughn, Prest.; T. D. Meador, V.-P.; J. L. Roberts was elected a member of the finance committee to serve with the officers. Cashier not yet selected. Business is to begin about Sept. 10.

Okla., Newkirk.—Security State Bank, capital \$30,000, incptd. by George Midgley, Oklahoma City, and P. S. Mason and F. S. Midgley, Newkirk.

Okla., Tar River.—Mineral Belt Bank, capital \$15,000, incptd. by Truman Elmore, M. Waldo Hatler and Q. P. McGhee.

Okla., Tulsa.—A new State bank is reported being organized in Tulsa by W. D. Hall, formerly of Beggs, Okla., but now of Tulsa, and associates. It will be situated at the corner of Main and Archer Sts.

S. C., Barnwell.—Barnwell Banking Co., capital \$25,000, has organized and will begin business immediately. J. E. Harley, Prest.; A. M. Denbow and N. G. W. Walker, V.-P.; L. P. Wilson, Cashier.

S. C., Batesburg.—The Consolidated Bank, capital \$80,000, surplus \$16,000, is reported organized by the merger of the Citizens' National Bank and the First National Bank. R. H. Timmerman, Prest. of the Citizens, will be Chrmn. of the board, and T. B. Kernaghan, Prest. of the First National, will be Prest.; A. C. Jones and Ira

RAILROAD CONSTRUCTION

RAILWAYS

Ala., Birmingham.—An officer of the Birmingham Civic Association denies recent press report that it contemplates construction of a railroad from Birmingham to the Warrior River, about 20 mi. It is further stated that individuals propose the line, but the Association as a body is not interested. Address T. L. Cannon.

Fla., Orlando.—Atlantic Coast Line has bought land, said to be about 40 acres, near Orlando for the construction at some time in the future of tracks for freight use. J. E. Willoughby, Wilmington, N. C., is Chief Engr.

Fla., St. Petersburg.—George S. Gandy, Prest. of the St. Petersburg-Oampa Electric Railway Co., has filed bond for \$25,000 with the State of Florida to guarantee construction of the proposed line 18 mi. long, including \$1,000,000 bridge over Old Tampa Bay. It is expected contracts will soon be let. Address, care of Wayne Trust Co., Philadelphia, Pa.

Fla., Venice.—Gulf Coast Ry. is reported bought by the Manasota Land & Timber Co. and will let contract to lay track from Venice to Manasota, Fla., 9½ mi. J. Henry Strohmeyer, R. Lancaster Williams and Jacob France, all of Baltimore, Md., are interested; also J. S. Cosden of Tulsa, Okla. Mr. Strohmeyer is Prest., Mr. Williams V.-P., and Joseph S. Whitney, also of Baltimore, Secy.-Treas. Line may be extended to McCall, Fla.

Ga., Clermont.—Chestatee Railway Co. of Atlanta will build line from Clermont, on the Gainesville & Northwestern Railroad, to Chestatee, Ga., 9½ mi. Contract let to the Nichols Contracting Co. of Atlanta. Chestatee Pyrites & Chemical Corporation is interested. N. P. Pratt, Prest., Atlanta, Ga.

Ky., Russell.—Chesapeake & Ohio Ry. is reported preparing to begin construction of a 20-track addition to the Russell yards, which, including buildings, will cost about \$1,500,000. F. I. Cabell, Richmond, Va., is Ch. Engr.

Md., Odenton.—Pennsylvania R. R. will build branch 1 mi. from Odenton to Camp Meade. J. C. Auten, Wilmington, Del., is Pr. Asst. Engr.

Mo., Floyd.—Second track construction, between Floyd and Camden, Mo., 5 mi. on the Atchison, Topeka & Santa Fe Railway is in progress. This refers to late press report.

N. C., Benson.—\$40,000 of bonds to aid construction of the proposed Central Carolina R. R. have been voted by Benson Township. J. R. Baggett, attorney-at-law, Lillington, N. C., and others are interested.

Capital and Surplus
\$4,000,000



Total Resources
\$38,000,000

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C. G. MORGAN, Asst. Cashier.
Accounts of Mercantile Firms, Corporations,
Bankers and Individuals Invited.

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BALTIMORE

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TRANSACTS A GENERAL TRUST AND
BANKING BUSINESS
Correspondence and Interviews
Invited

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Capital and Surplus - - - - - \$3,000,000
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Second National Bank Bldg., TOLEDO, O.

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Second National Bank Building
TOLEDO, OHIO

C. Carson, V.-P.'s; J. R. Unger, Cash., and
McK. Hartley, Asst. Cash. Assets exceed
\$625,000.

S. C. Hardeeville.—Bank of Hardeeville,
capital stock \$15,000, is granted a commission.
Organizers: C. M. McTeer, Henry
R. Williams and Al G. Martin of Hardeeville;
S. B. Owens and John P. Wise of
Ridgeland, S. C.

Tenn., Chattanooga.—An industrial bank
is reported being organized in Chattanooga
by B. F. Frazer, Jr. of Nashville. Local
people will compose the directorate.

Tex., Quanah.—Security State Bank of
Quanah, capital stock \$50,000, has been
authorized to begin business. C. T. Watkins
is Pres., and W. L. Bradley, Cashier.

Tex., Schulenburg.—Ignas Russek, State
Bank of Schulenburg, is authorized to do
business; capital \$25,000. Rosa Russel
Pres.; Henry Graf, Cash.

W. Va., Clarksburg.—Community Savings
& Loan Co., recently incorporated, has taken
offices at 208 Goff Bldg., and begins business
immediately. C. W. Leggett is Pres.;
James M. White and E. W. James, V.-P.,
and L. S. Lowther, Treas. and Gen. Mgr.

NEW SECURITIES

Ala., Athens—(Street).—\$125,000 of 6 per
cent. street-improvement bonds were recently
purchased at par by W. J. Nesbit of De-
catur.

Ark., Marion—(Road).—\$100,000 road bonds
of Crittenden County Improvement Dist. No.
1 have been purchased by the Bankers' Trust
Co. of Little Rock, Ark. They are 5% per
cent. 20-year bonds.

Ark., Texarkana—(Bridge).—Bids are to
be opened October 4 for \$260,000 of bonds.
Address Board of Commrs., Red River
Bridge Dist.

Fla., Arcadia—(Bridge).—Election is to be
held in Comms. Dist. No. 4, Arcadia, Sept.
15 to vote on the question of issuing 5-year
time warrants. Address County Comms.
A. L. Durrance, Clerk.

Fla., Bartow—(Road, Bridge).—Bids will be
received until noon Oct. 2 by J. A.
Johnson, Clerk Board of Commrs. of Polk
County, for \$150,000 of 6 per cent. bonds
Special Road and Bridge Dist. No. 2; dated
June 1, 1917; maturity June 1, 1927 to 1941,
inclusive.

Fla., Bay Minette—(Road, Bridge).—Elec-
tion is to be held in Baldwin County Sept. 15
to vote on \$75,000 of bonds. Address County
Comms.

Fla., Fort Myers—(School).—Bids will be
received until 2 o'clock Sept. 18 for \$500 of
6 per cent. \$500 denomination bonds Spec-
ial Tax School Dist. No. 12, Lee County;
dated Jan. 1, 1917. Jos. W. Sherrill is Supt.
and Secy. Board of Public Instruction,
Lee County.

Fla., Lake Worth—(Street).—\$80,000 of
bonds recently reported voted have been
sold. A. H. Thomas is Town Clerk.

Fla., Tavares—(Highway).—Election is to
be held in Lake County Sept. 25 to vote
on \$50,000 of bonds. Address County Com-
missioners.

Ga., Montezuma—(Paving).—\$25,000 of 4%
per cent. 20-year \$1000 denomination street
paving bonds have been sold to the Alabama
Paving Co., Birmingham.

Ga., Thomasville—(Sidewalk, Street, Elec-
tric-light Plant, etc.).—Bids are invited at
any time for private sale of the \$150,000 of
city bonds not sold on August 23 thus: For
street and sidewalks, \$75,000; Improvement
electric-light plant, \$50,000; water extension,
\$15,000; water works improvement, \$10,000,
and fire alarm, \$5000. They are 4% per cent.
15-30-year serial \$500 denomination. Address
Alderman L. H. Jerger, Chr. M. Finance
Com. A. A. Riley is City Clerk.

Ky., Covington.—\$250,000 of school bonds
will be voted on at the election Nov. 6. De-
tails not yet decided. Address W. A. Shore,
Business Director School Board.

La., Baton Rouge—(Levee).—The Fifth
Levee Dist. has, it is announced, been
authorized to issue \$250,000 of the 5 per cent.
50-year State bonds (total authorized \$1,000,
000) for the construction of levees. Address
M. P. Robinson, member State Board of
Engineers.

La., Lake Charles—(Navigation).—Bids
will be received until 3 P. M. Sept. 20 for
\$250,000 of 5 per cent. 1-20-year bonds Cala-
sieu Navigation Dist. No. 1. Lake Charles



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Trust and Savings Bank or Calcasieu National Bank, Lake Charles, agents. Further particulars will be found in the *Proposals Department*.

La., Rayville—(Road).—No sale was made Aug. 29 of the \$40,000 of bonds Road Dist. No. 1, Richland Parish, offered on that date. C. P. Balfour is Prest. Board of Supr. and M. A. Harkey Secy.

La., St. Martinsville—(Road).—St. Martin Parish is reported to have voted bonds for good roads. Address President Police Jury.

Md., Baltimore—(Park, Street, Convention Hall).—The proposed \$3,000,000 loan for city parks, special street improvements and city convention hall has been approved by the Park Board and a resolution adopted requesting the Mayor and City Council to submit it to the voters in November. J. Harry Preston is Mayor.

Miss., Charleston—(Water).—Election is to be held Sept. 24 to vote on \$13,500 of bonds. Address The Mayor.

Miss., Meridian—(Warrants).—\$20,000 of 6 per cent. warrants will be issued by the Okla., Coyle—(Water).—\$13,000 of 6 per cent. bonds have been purchased at par by R. J. Edwards & Co. Roy Teal is Mayor.

Okla., Holdenville—(School).—\$34,000 of school bonds for Wetumpka Township, Hughes County, have been approved by the Atty.-Gen. Address School Board.

Okla., Marietta—(Funding).—\$14,000 of 6 per cent. \$1000 denomination bonds Love County, dated July 24, 1917, and maturing July 24, 1942, are being offered to investors. Address County Comms.

Okla., Sapulpa—(School).—\$80,000 of 6 per cent. 25-year bonds Creek County have been purchased by M. E. Trapp, Oklahoma City.

Okla., Shamrock—(Water, City Hall and Jail, Fire Equipment).—\$40,000 water-works, \$2500 city hall and jail and \$3500 fire equipment 6 per cent. bonds have been purchased at par by C. Edgar Honnold, Oklahoma City, Okla., for \$12,150.

Okla., Stratford—(School).—\$12,000 of 6 per cent. 20-year school bonds, voted July 21, have been sold to R. J. Edwards of Oklahoma City, Okla., for \$12,150.

Okla., Stratford—(School).—With reference to the recent report that \$12,000 of school bonds were voted T. P. Rollon, County Commr., says: "No bonds in prospect now."

S. C., Spartanburg—(Sewer).—\$40,000 of 5 per cent. 20-year, \$1000 denomination, sewer bonds, for which bids were opened Aug. 27, were sold to R. M. Grant & Co. of New York at \$41,028.

Tenn., Knoxville—(General Improvement).—Bids will be received until 7:30 P. M. Sept. 18 by Robt. P. Williams, City Recorder and Treas., for \$800,000 of 5 per cent. \$1000 denomination bonds, dated Sept. 1, 1917, and maturing Sept. 1, 1937, inclusive.

Tenn., Memphis—(School, Street, Water).—Bids will be received until 7:30 P. M. Sept. 18 for \$800,000 of 5 per cent., 30-year serial, \$1000 denomination, water, street and school bonds. Robert P. Williams is Recorder and Treas. and John E. McMillan, Mayor. Further particulars will be found in the *Proposals Department*.

Tenn., Sneedville—(Road).—Bids will be received until noon Sept. 25 for \$100,000 of not exceeding 5 per cent. 5-14-year Hancock County bonds. Denomination \$500 to \$10,000 to suit purchaser. H. B. Jaraghin is Chrmn. Pike Road Comms., Hancock County.

Tex., Austin—(Sewer, Street, School, etc.).—Election will be held early in October on a total of \$365,000 of city bonds as follows:

\$185,000 sewage-disposal plant, \$40,000 sewer extension, \$40,000 fire alarm, \$25,000 storm sewer, \$25,000 street and \$50,000 school re-funding. A. P. Wooldridge is Mayor.

Tex., Beaumont—(Park).—\$100,000 of 6 per cent. \$500 denomination park bonds have been voted and will be sold. J. G. Sutton is City Secy.

Tex., Corsicana—(Road).—\$16,000 of 5 per cent. Navarro County bonds have been purchased by Bosworth, Chanute & Co., Denver.

Tex., El Paso—(Street).—Election is to be held in September to vote on \$150,000 of 4½ per cent. bonds. Address The Mayor.

Tex., Gilmer—(Warrants).—\$800 of 6 per cent. city warrants were purchased by J. L. Arlitt of Austin.

Tex., Mission—(Public Improvements).—\$7500 of 6 per cent. City of Mission public improvement warrants have been bought by J. L. Arlitt of Austin, Tex.

Tex., Pleasanton—(Water).—\$20,000 of 5 per cent. 40-year bonds have been sold. Chas. T. Troell is Mayor.

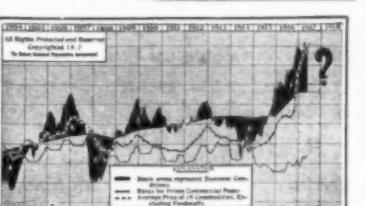
Tex., Rosebud—(Water-works).—\$16,500 of 5 per cent. 10-40-year water-works bonds have been sold to J. L. Arlitt of Austin.

Va., Bristol—(Street).—Bill providing for the issuing of \$20,000 of bonds has been vetoed by Mayor Geo. M. Warren.

W. Va., Fairmont—(Refunding).—\$450,000 of an authorized issue of \$760,000 of 4½ per cent. \$1000 denomination bonds have been purchased at par and accrued interest by the Fidelity Trust Co., Baltimore.

FINANCIAL NOTES

Elmore F. Higgins of Alabama, Asst. Chief National Bank Examiner at Chicago, has been appointed Acting Chief National Bank Examiner for the Fifth Federal Reserve Dist., with headquarters at Richmond, succeeding temporarily the late Thos. P. Howard, Chief National Bank Examiner, who was killed recently in an automobile accident.



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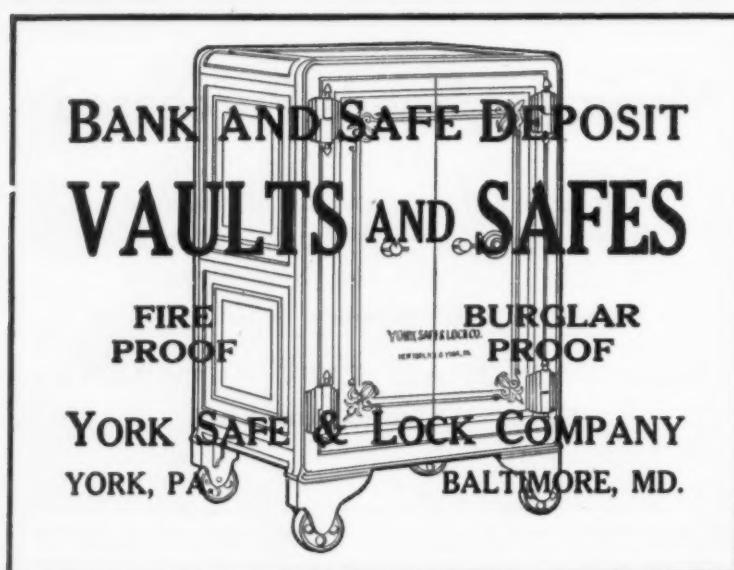
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OLD DOMINION LAND COMPANY
NEWPORT NEWS, VA.

Board of Supervisors of Lauderdale County at the September meeting. W. R. Pistole is Clerk.

Miss. Pascagoula — (School). — Bids are being received for \$3840 of 6 per cent. bonds Harrison-Jackson Consolidated School District, Jackson County. W. P. Ramsay is Prest., and Fred. Taylor, Clerk.

Miss. Senatobia — (School). — \$7000 of 6 per cent. bonds Arkabutla Consolidated School Dist., Tate County, have been purchased at 102.571 by Mrs. K. B. Elder. J. A. Wooten is Clerk.

Mo., Aurora — (City Hall). — \$25,000 of 5 per cent. 20-year \$1000 denomination bonds are voted and are to be put on the market immediately. B. W. Dillard is City Clerk.

Mo., Galloway — (Road). — Election is to be held Sept. 12 to vote on \$10,000 Green County bonds. Address County Commsr.

Mo., St. Louis — (Sewer, etc.). — Election November 6 on \$18,840,000 of city bonds for sewer and other municipal improvements has been called off, the ordinance for the vote being ruled out as invalid. Address Mayor Kiel.

N. C., Asheville — (Funding). — Bids will be received by the City Commsr. Oct. 26 for \$196,000 of not over 6 per cent. 10-year serial bonds to fund the city's floating debt. J. E. Rankin is Mayor; J. G. Stike-

leather, Commr., and F. L. Conder, Secy.-Treas.

N. C., Benson — (Railroad Aid). — \$40,000 of 5 per cent. 40-year bonds of Benson Township, Johnston County, bonds have been voted to aid construction of Central Carolina Railroad. To be exchanged for railroad stock when line is completed.

N. C., Durham — (Water, Sewer, Funding). — \$380,000 of 5 per cent. serial bonds are to be sold by the Board of Aldermen on October 16 as follows: \$250,000 water system, \$50,000 sewer improvement, and \$80,000 funding.

N. C., Lenoir — (Street). — \$90,000 of 6 per cent. \$1000 denomination, street-improvement bonds, offered Aug. 27, were sold to Stacy & Braun of Toledo, O., at a premium of \$160.10. E. F. Allen is Town Clerk and Treas.

N. C., Mount Holly — (Sidewalk). — \$10,000 of 6 per cent. 10-year \$500 denomination bonds have been purchased at par, accrued interest and \$62.50 premium by the Citizens' National Bank, Gastonia, N. C. W. T. Johnson is Clerk.

N. C., Newton — (Bridge). — Bids will be received until noon Sept. 12 for \$100,000 of 5 per cent. serial bridge bonds of Catawba County. Address Osborne Brown, Chrmn. County Commsr.

N. C., Smithfield — (Railroad Aid). — Voted \$40,000 of Benson Township bonds to aid construction of proposed Central Carolina R. R. Address County Commsr.

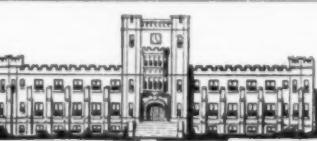
N. C., Wilmington — (Water, Street, Sewer, Funding, etc.). — City will issue 6 per cent. \$1000 denomination bonds thus: \$75,000 of 10-year for funding city debt and \$25,000 of 25-year for various purposes thus: \$10,000 street, \$8000 water extension, \$2500 sewer and \$4500 drainage and curbing. Thos. D. Meares is City Clerk and Treas.

N. C., Winston-Salem — (Sewer). — Bids will be received until noon Sept. 12 for \$175,000 of 5 per cent. bonds, dated Sept. 1, 1917, and maturing Sept. 1, 1947, inclusive. Address W. H. Holcomb, City Treas.

Okl., Anadarko — (Road, Bridge). — Election is to be held in Caddo County in near future to vote on \$25,000 of bonds. Address County Commsr.

Okl., Bristow — (City Hall, Water, Sewer). — \$22,000 of 6 per cent. 20-year bonds have been purchased at par and interest and bonus of \$1100 by Bermont Oil Co., Bristow

Okl., Chickasha — (School). — \$10,000 of bonds for Grady County schools have been approved by the Atty.-Gen. Address School Board.



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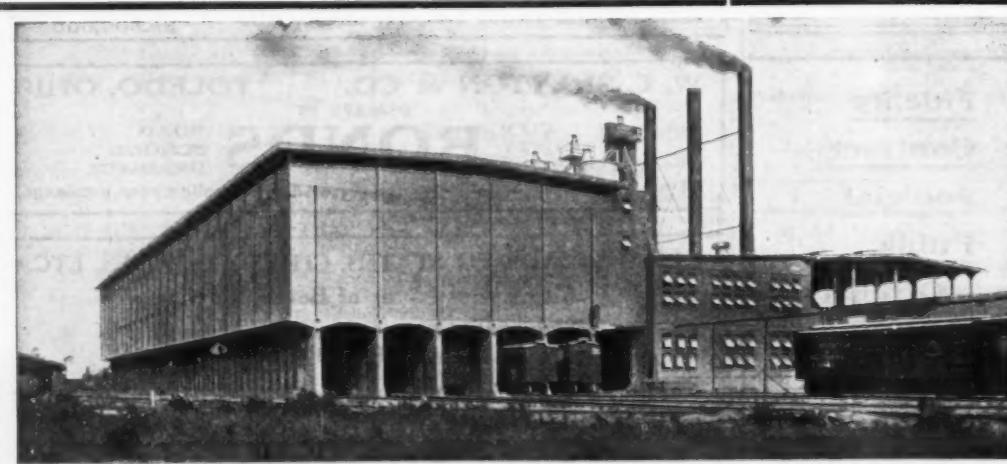
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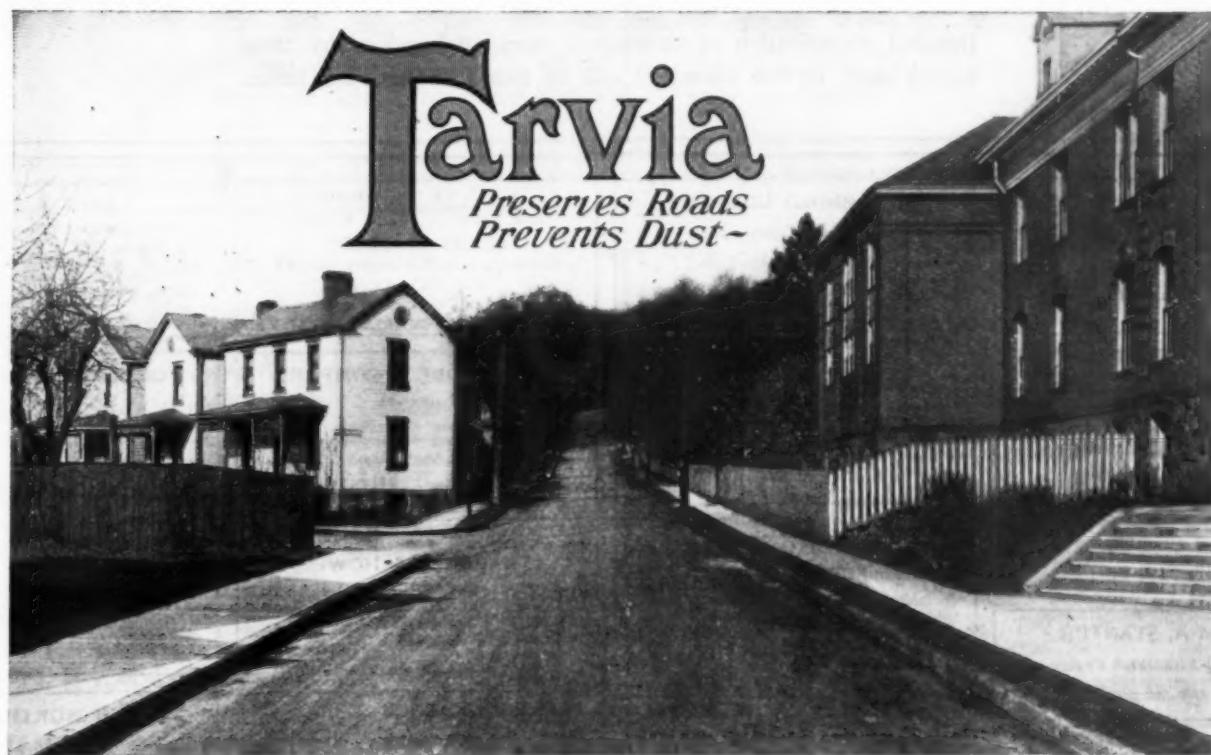
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“Tarvia-B”
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“We contemplate the use of considerable of this product

during the coming summer on streets that were not treated last year, and we will advise you later regarding our order.”

Division Street, Sewickley, which is shown above, was constructed with “Tarvia-X” in 1913. In 1916 it received its first coating of “Tarvia-B.” The cost of up-keep for the four years will therefore be approximately the cost of the “Tarvia-B” treatment, and this was quite inexpensive. The street is now in as good condition, if not better, than at any time in the four years.

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Important Manufacturing Contract.
The Emerson Pump & Valve Co. of Alexandria, Va., has closed a deal with the Turner Tanning Machinery Co. of Peabody, Mass., to build for them a new beamhouse machine which they are putting on the market. It is understood that this business will probably last for several years and it may result in the Alexandria factory becoming practically a branch works and distributing plant for this product.

ployed to permit easy manipulation of the concrete was difficult to remove, but now the roller method presses it out after the manner of a rolling squeegee and it, moreover, consolidates the top layer of the pavement. Furthermore, the rolling removes inequalities in the surface. Concrete slabs finished with the roller, it is said, also show great increase in strength.

Ransome Concrete Machinery Co. Incorporated.

The Ransome Concrete Machinery Co. of New Jersey has been incorporated to take over the business and plants of the Ransome Concrete Machinery Co. of New York. The latter company has a successful existence of over 25 years, but owing to the very rapid increase in business and the vast extent of the field to be covered in domestic and foreign trade it has been necessary to call in new and larger capital. The Ransome Concrete Machinery Co. now has a capital of \$1,000,000. It operates two factories, one at Dunellen, N. J., and the other at Reading, Pa., but it will undoubtedly become necessary to add manufacturing facilities in other parts of the United States in the near future as well as to establish plants abroad. The increasing demand for Ransome concrete machinery and equipment in this country has been duplicated abroad and there is sure to be an enormous call for concrete machinery for the rebuilding of Europe, and the present management has not overlooked all of these possibilities. The Ransome company now manufactures a complete line of its class of mixers. Its most recent type is the "Ransome Bantam Paver" and the "Macon Concrete Paving Road Roller." The use of the "Ransome-Canniff Pneumatic Mixer and Placer" is also on the increase. The officers of the new company are: President, Frank L. Brown, New York City; treasurer, John J. Givens, Dunellen, N. J.; secretary, Robert H. Moody, New York City. These, together with the following are directors: H. E. Brooks, Vice-President American Express Co., New York City; C. H. Haney, Sales Manager International Harvester Corporation, Chicago, Ill.; John G. Wood, General Manager of works, International Harvester Corporation, Chicago, Ill., and G. F. Steele, Manager, News Print Association, New York City. The main office of the company is at Dunellen, N. J., with the New York office at 115 Broadway.

(Continued on Page 107.)

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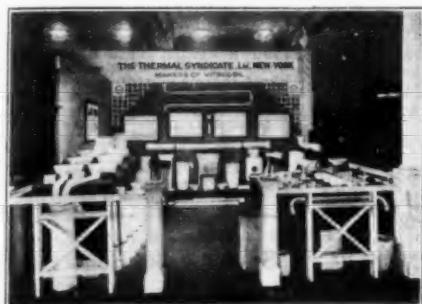
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IN THE THIRD

NATIONAL EXPOSITION OF CHEMICAL INDUSTRIES

Week of September 24th

A FEW EXHIBITS LAST YEAR



Our Final Message to the South

WE have persistently sought to engage your attention upon the opportunities this Exposition offers you of placing before the big business men of the country those resources at your command suitable for industrial development.

You (who have been negligent in conceiving the greatness of its purpose, or of an appreciation of the quality of the men who seek the Exposition for its inspiration, and to learn where the materials exist that can be developed into big industries) are now advised to come and see this Exposition, get its inspiration, meet the big men of affairs who move so quietly from exhibit to exhibit, carefully investigating each.

Appoint a member of your organization whose duty it shall be to visit, carefully investigate, and make a report, so that you can avail of these unusual opportunities next year.

State Officials: Should learn how best to use it to develop the resources of their respective States.

Chambers of Commerce: To show through it why prospective industries should locate within your province.

Railroad Companies: What resources along their roads can be developed, thereby increasing the road's revenue.

Water Power Companies: What they can offer and why certain new industries should be located to receive their power.

Mine and Land Operators: How and why the products on and of your properties can be developed or used in big industries.

Your Future Industrial Success Demands This Visit

National Exposition of Chemical Industries

GRAND CENTRAL PALACE, NEW YORK

PROPOSALS

BOND ISSUES

BUILDINGS

PAVING

GOOD ROADS

More Southern Proposal Advertising Is Printed In The Manufacturers Record Than In Any Other Paper

Bids close September 25, 1917.

PROPOSALS FOR INCINERATING
Plant, Marine Boiler Fittings and Auxiliaries, Marine Boilers, Generating Set, Gasoline Motor, Scales, Circular Stairs and Railings, Steel Plates, Frogs, Manganese Steel Teeth, Machine Bolts, Carriage Bolts, Nuts, Washers, Rivets, Shovels, Stovepipe, Block Tin Pipe, Hooks and Eyes, Copper Nails, Belt Lacing Hooks, Blocks, Leather, Break Band Lining, Rubber Tires, Rubber Boots, Buckskin Gloves, Saddle Pads, Sash Cord, Bunting Cork, Metal Polish, Chalk, Crayons, Paper, Manifolding Books, File Containers, Wire Glass, Tiles, Gas Engine Oil, Waste, Barrow Handles, and Tables. Sealed proposals will be received at the office of the General Purchasing Officer, The Panama Canal, Washington, D. C., until 10:30 A. M., September 25, 1917, at which time they will be opened in public, for furnishing the above-mentioned articles. Blanks and information relating to this Circular (No. 167) may be obtained from this office or the offices of the Assistant Purchasing Agents, 24 State Street, New York City; Audubon Building, New Orleans, La., and Fort Mason, San Francisco, Cal.; also from the United States Engineer Offices in the principal cities throughout the United States. **BENEDICT CROWELL**, Major, E. O. R. C. U. S. Army, General Purchasing Officer.

Bids close September 25, 1917.

TREASURY DEPARTMENT, Supervising Architect's Office, Washington, D. C., August 31, 1917. Sealed proposals will be received at this office until 3 P. M., September 28, 1917, and then opened, for ten houses for the U. S. Marine Hospital, Key West, Florida, in accordance with the specification, and drawings, copies of which may be had at the office of the custodian of the station, or at this office, in the discretion of the Supervising Architect. **JAS. A. WETMORE**, Acting Supervising Architect.

Bids close September 25, 1917.

TREASURY DEPARTMENT, Supervising Architect's Office, Washington, D. C., August 31, 1917. Sealed proposals will be opened in this office at 3 P. M., September 28, 1917, for a refrigerating plant in the United States Marine Hospital at Key West, Florida, in accordance with the specification, copies of which may be had at this office, or at the office of the custodian, in the discretion of the Supervising Architect. **JAS. A. WETMORE**, Acting Supervising Architect.

Bids close September 15, 1917.

\$100,000 5% Bonds
TO BE ISSUED IN DENOMINATION OF
\$1000.00. **Raleigh, N. C.**

The Board of Commissioners for the County of Wake, North Carolina, will receive sealed bids for 5 per cent, thirty-year funding bonds for the County of Wake, not to exceed \$100,000. Bids to be opened at 12 o'clock M., September 15, 1917. Proposed to be issued by the County of Wake, State of North Carolina, to take up the floating debt of the county. Place for payment of principal and interest to suit purchaser. Issued under authority of General Law, Section 1318, Code of 1908. Certified check for \$2000, payable to the Treasurer of Wake County, to accompany bid. Proceeds of sale of these bonds will be used to pay notes representing the floating debt of Wake County.

ARCH J. WOOD,
Clerk to the Board of County Commissioners.
J. W. BUNN, County Attorney.
August 14, 1917.

Bids close September 18, 1917.

\$800,000 5% Bonds

On the 18th day of September, 1917, until 7:30 o'clock P. M., in the office of the Recorder, the Board of Commissioners and Treasurer of the City of Knoxville, Tennessee, will receive sealed bids for eight hundred (\$800) corporate coupon 5 per cent, serial bonds of said city, dated September 1, 1917, interest payable semi-annually March 1 and September 1, being general improvement bonds 1917. Both principal and interest payable at Hanover National Bank, New York, in serial installments annually as follows:

\$25,000 thereof on first day of September in each of the years 1918 to 1937, and \$30,000 thereof on the first day of September in each of the years 1938 to 1947, being direct obligations of the city, full annual sinking fund having been provided for and being also in part a lien upon the water-works system. Favorable opinion of Wood & Oakley, Bond Attorneys, of Chicago, will be furnished the purchaser.

Certified or cashier's check on Knoxville bank for 5 per cent, must accompany each bid.

Financial statement submitted to Chas. B. Wood of Wood & Oakley, with all other data, before he passed upon this issue.

ROBT. P. WILLIAMS,
Recorder and Treasurer.
JNO. E. McMILLAN,
Major.

Bids close September 20, 1917.

\$250,000 5% Bonds

The Commissioners of Calcasieu Navigation District No. 1, Lake Charles, Louisiana, will open sealed bids September 20, 1917, at 3 o'clock P. M., at their office in the Court House, for \$250,000 5 per cent, 1-20 year bonds of said district. Certified check, \$7500. Full data upon application to either Lake Charles Trust and Savings Bank or Calcasieu National Bank, Lake Charles, La. Agents Right reserved to reject any and all bids.

Bids close September 10, 1917.

\$75,000 5% Bonds

The Board of Commissioners of Sampson County will offer September 10, 12 M., at auction sale at Clinton, N. C., \$75,000 Sampson County Road Bonds. Bonds run 20 years, bear 5 per cent, payable semi-annually. Bonds dated July 1, 1917. Address all communications to

BUTLER & HERRING, Attorneys,
Clinton, N. C.

Bids close September 11, 1917.

\$90,000 Bonds for Sale

Huntsville, Ala.
Sealed bids will be received until noon September 11, on \$90,000 20-year funding bonds. Semi-annual interest. Certified check \$500 to accompany bid.

T. L. PATTON,
Clerk-Treas.

Bids close September 10, 1917.

Street Improvements

Durham, N. C.

Sealed proposals will be received for furnishing the labor and material necessary for the improvement of certain streets by constructing pavements therein by the Mayor and Board of Aldermen of the City of Durham, North Carolina, until three o'clock P. M. of September 10, 1917, at which time they will be opened and publicly read. The specifications provide for the grading, draining and curbing and the paving of the roadways with sheet asphalt, asphaltic concrete, concrete, brick, wood-block, granite block or other acceptable materials.

Alternative bids will be received upon approximately 50,000 square yards of pavement and 25,000 linear feet of curb and gutter.

Each bid shall be accompanied by a certified check upon a national bank, or a bank or trust company doing business in North Carolina, for the sum of \$4000 as evidence of good faith.

Plans may be examined at the office of the Chief Engineer. Blank forms of proposals, specifications and cross-sections may be obtained from the Chief Engineer by making a deposit of \$5, which will be refunded upon their return in good condition.

The city reserves the right to reject any or all bids, or to accept any which it may deem for its best interest.

B. S. SKINNER, Mayor.
GEO. W. WOODWARD, City Clerk.
K. B. WARD, Chief Engineer.
Durham, N. C.

Bids close September 12, 1917.

Roads or Bridges in Spartanburg County, S. C.

Sealed proposals, on blank forms furnished by the Spartanburg County Highway Commission, and addressed to the Chairman of said Commission, will be received until 11 o'clock Wednesday, September 12, 1917, for furnishing all equipment, labor and material for the following work in connection with Contract No. 2 for the construction of 8.8 miles of 16-ft. top-soil road on the Reidsville Road. Plans and specifications may be obtained at the office of the Highway Engineer or the Secretary of the Highway Commission on and after August 23, 1917. A charge of five (\$5) dollars will be made for each complete set of plans and specifications, this amount to be refunded upon return of these plans and specifications before September 15, 1917, in good condition. Specifications used in making a bid will be considered returned.

A certified check on some bank in the City of Spartanburg, made payable to the Chairman of the Highway Commission for the sum of 2 per cent. of bid, will be required with each bid to certify good faith on part of bidder.

The successful bidder will be required to give bond for 25 per cent. of the contract price and to comply with the State and County laws regarding contracts.

The Highway Commission reserves the right to reject any and all bids.

JOHN A. LAW,
Chairman.

REID TULL,
County Highway Engineer.

T. S. PERRIN,
Secretary.

Bids close September 14, 1917.

Street Paving

Notice is hereby given that in pursuance of resolution adopted by the City Council of the City of St. Cloud, Fla., the City Council will receive, open and consider bids on Friday, September 14, 1917, at 10 o'clock A. M., for \$250,000 5 per cent, 1-20 year bonds of said district. Certified check, \$7500. For grading, paving and curbing certain streets in the City of St. Cloud, Fla.

Approximately 18,000 yards paving.

Approximately 15,000 feet curbing.

Curbings to be of 4" x 14" granite, 4½" x 12" cement, or combined curb 4½" x 12" and 18", 24", 30" or 36" gutter; paving material to be vitrified brick, asphaltic concrete, asphalt mac. in or cement concrete. Certified check for \$500, payable to the City Treasurer, shall accompany each bid. The successful bidder will be required to give reasonable bond for performance of contract.

Payment to be made either in cash or in certificates of indebtedness issued under Chapter 684, Laws of Florida, Acts of 1915, at par value, drawing 8 per cent. annual interest. All bids to be addressed to City Council of the City of St. Cloud, Fla., care of Fred B. Kenney, City Clerk, St. Cloud, Fla.

By order of the Council, dated August 20, 1917.

FRED B. KENNEY.

Bids close September 20, 1917.

Street Improvements

Sealed proposals will be received by the undersigned until 3 o'clock P. M., Saturday, September 20, 1917, for the construction of certain grade work, gravel paving, concrete culvert work, concrete curb and gutter work in the City of Russellville, Ala., under Improvement Ordinance No. 1. Specifications may be obtained and plans examined at the office of Travis Williams, City Attorney, on Jackson Street, in said city. All bids must be accompanied with certified check in the sum of \$500. The right is reserved to reject any and all proposals.

(Signed) **A. J. EARLE**,
City Engineer.

Bids close September 11, 1917.

Street Improvements

Sealed bids will be received until September 11 at 7:30 o'clock by the Board of Commissioners of the City of Knoxville, Tenn., for paving, grading and storm-sewering Central Street Improvement District 14, Hill Avenue Improvement District 142 and Third Street District 146. Approximate 7025 square yards.

Plans and specifications can be had from J. B. McCalla, City Engineer.

ROBT. P. WILLIAMS,
Recorder and Treasurer.
JNO. W. FLENNIKEN,
Commissioner of Streets.

Bids close September 25, 1917.

Sanitary Sewer and Sewage-Disposal Works

Lafayette, La.

Sealed proposals will be received by the Board of Trustees of Lafayette, Louisiana, at the office of the Trustee of Public Property in the City Hall, for constructing Sanitary Sewers and Sewage-Disposal Works in and for the City of Lafayette, Louisiana, until 2:30 P. M. on the 25th day of September, 1917, at which time they will be opened and read publicly. The work includes the furnishing of all labor, material, machinery and equipment of every kind necessary to construct approximately ten miles of Sanitary Sewers, sizes 8 to 20 inches, with all necessary appurtenances, and a Sewage-Disposal Plant, consisting of a settling tank, contact beds, sludge bed and emergency pumping station, all complete and in accordance with plans and specifications on file at the office of the Engineers and the Trustee of Public Property.

Each bid must be accompanied by a certified check on a bank satisfactory to the Board of Trustees for five (5%) per cent. of the amount bid, drawn to the order of the Trustee of Public Property, Mr. J. O. Herpin.

A bond in the sum of fifty (50%) per cent. of the amount of the contract, with satisfactory surety, will be required for the faithful performance of the work.

All bids will be compared on the basis of the Engineer's estimate of the work to be done.

Copies of plans and specifications may be obtained from the Engineers upon deposit of twenty-five (\$25) dollars, which will be returned if bona fide bid is submitted.

The right is reserved to reject any or all bids.

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INDUSTRIAL NEWS OF INTEREST

(Continued from Page 104.)

A Real "Safety-First" Switch.

In steel mills, factories, mines and similar places employing men with practically no knowledge of electricity and its attendant risks, the need for an absolutely safe switch has become a necessity. Such a switch, so constructed that all live parts are totally enclosed and inaccessible, has been brought out by the Westinghouse Electric & Manufacturing Co., East Pittsburgh, Pa. The device consists of an ordinary single-throw knife switch and enclosed fuse holders mounted in an exceptionally strong cast-iron box, with an operating handle outside. The upper or switch compartment, secured by two machine screws, should never be opened except when making connections, or in case of inspection or repairs. The lower or fuse compartment need be opened only to replace blown fuses. The door of this can be opened only when the operating handle is in the off position and the circuit broken. Furthermore, with the door open it is impossible to close the switch, and the danger of a live line is eliminated. The operating handle can also be locked with the switch open, preventing tampering by unauthorized persons.

TRADE LITERATURE

Mechanics' Ready Reference Table.

The Lufkin Rule Co., Saginaw, Mich., has just brought out a new article for the use of machinists, toolmakers, etc., known as No. 97 and suitable for pocket use. It is

of flexible spring steel, 1 7/32 inches wide and 9/16 inches long, bearing on one side machine screw tap sizes, each followed by tap drill size number and its decimal equivalent, and the corresponding body drill size number and its decimal equivalent, commonly known as the outside diameter size. On the opposite side is a complete set of decimal equivalents of fractions, and at the foot an inch graduated to 64ths. It has good legible figures throughout. The combination in one article of these figures makes reference to two tables no longer necessary. The price is 50 cents.

Diamond Drills—Their Advantages.

"The advantages of the diamond drilling process require but little argument for most of those who read this," says the foreword of Catalog No. 69, issued by the Sullivan Machinery Co., Chicago. "Sullivan diamond drills have been manufactured continuously since 1875 and represent the most modern and improved designs and methods for removing a solid sample or core of rock from the strata penetrated. Millions have been won when they reported 'The ore is there,' and many thousands of dollars have been saved when they indicated 'Not worth while.' There are sundry excellent illustrations in this publication, some showing the appearance of cores removed, several being of great length. There are also tables of sizes, specifications, etc., valuable for making selections to do any particular kind of work. The company has also issued two bulletins, No. 70-D relating to Sullivan rock drills, and No. 70-E, relating to Sullivan submarine rock drills. These are also illustrated effectively. Copies will be sent on request.



Courier of Soldier and Civilian

Our troops are now on the firing line in France. While at home every instrumentality of our government and private industry is being urged at top speed to insure victory. The telephone is in universal demand as courier, bringing to the front men and the materials of war.

From the farms the telephone courier brings food-stuffs; from the mines the telephone courier calls forth metals; from the factories this courier gathers manufactured products. The telephone courier leads troop and supply trains to the front; summons fighting flotillas and trans-

ports; and, in fact, leads practically every contributing unit of supply to the firing line.

At such a time, when the government is straining at its task and every industry is loyally contributing its energy, this national courier is constantly being used to call up the reserves. It is at the base of every contributing activity.

The right of way must be given to the military for the direction of troops and to the government for the marshaling of endless supplies. To do this, and also make the telephone serve all other needs, both patriotic and private, all must economize.

AMERICAN TELEPHONE AND TELEGRAPH COMPANY
AND ASSOCIATED COMPANIES

One Policy One System Universal Service



DU PONT AMERICAN INDUSTRIES



Make Better Roads By Using Red Cross Explosives

Better roads enable the hauling of bigger loads and quicker deliveries at a positive saving of time, labor and money.

The introduction of explosives into road-building has been the means of improving the roads and keeping the expense of improvements and construction at a satisfactory cost. So extensive have Red Cross Explosives been employed that today they are recognized as

The National Road Builders

Lowering grades, removing ledge, digging ditches, straightening curves and loosening road surfaces for steam and hand-shovellers are the road-betterments quickly and cheaply effected by correctly using Red Cross Explosives.

Every engineer, contractor, and official engaged in road-building operations should have a practical knowledge of the many ways Red Cross Explosives can be employed either exclusively or in connection with road-machinery.

"Road Construction and Maintenance"

contains practical instructions how to use explosives for road improvement. The book is serving as a text-book in many engineering schools, and its instructive and illustrative pages are of especial value to anyone engaged in making better roads for bigger loads. Write today for a copy of free book "Road Construction and Maintenance."

E. I. du Pont de Nemours & Co.
Wilmington, Delaware

POWDER MAKERS SINCE 1802



AMERICAN INDUSTRIES

E. I. du Pont de Nemours & Co. Wilmington, Del.
Industrial, Agricultural, Sporting and Military Explosives
Du Pont Fabrikoid Company Wilmington, Del.
Leather Substitutes
Du Pont Chemical Works 120 Broadway New York
Pyroxylin and Gas Tar Chemicals
The Arlington Works 725 Broadway, New York
Owned and Controlled by E. I. du Pont de Nemours & Co.
Ivory Py-ra-lin, Auto Sheetings, Cleanable Collars
Harrison's, Inc. Philadelphia, Pa.
Paints, Pigments and Chemicals



Classified Opportunities

MINERAL AND TIMBER LANDS WATER POWERS MISCELLANEOUS PROPERTIES

WHITE SANDSTONE, limestone and manganese on lands for sale and on royalty basis, with good R. R. facilities. For particulars address Robt. A. Thompson, Martinsburg, W. Va.

FOR SALE! Farm, timber land, mineral property or any other? We can help you get in touch with possible purchasers by an advertisement in these columns. For rates see head of this department.

FOR SALE—Tin property: Government Expert Ferguson now looking ground over; also manganese, gold and mica properties. O. R. Rudisill, P. O. Box 67, Greenwood, S. C.

GRAPHITE

OPPORTUNITIES in Alabama graphite. With capital of \$50,000 you can produce graphite at a clear profit of 200%. Get details and figures. Morris Spae, Ashland, Ala.

FOR SALE—120 acres in the heart of graphite district, Clay Co., Ala.; three good veins, some machinery and buildings on property. Address P. O. Drawer 456, Talladega, Ala.

COAL AND IRON ORE LANDS

6400 acres iron ore and coal lands in Alabama.

1500-acre furnace site, one modern 200-ton furnace.

2500 acres (8,000,000 tons) iron ore.

2400 acres (20,000,000 tons) coal, well developed and fully equipped. With the present price of coal and iron, this property can be made to pay for itself in one year. Reasonable terms to reliable parties. Address Horwood, 1405 S. W. Life Bldg., Dallas, Tex.

COAL LANDS

STRIPPING COAL FOR SALE

200 to 3000-acre tracts on R. R. Eastern Ohio; all fine commercial coal, easily mined. Prices reasonable. Common labor can be employed. Address Ed. E. Walker & Company, Covington, Ky.

VALUABLE COAL LANDS FOR SALE

We offer for sale for a customer, one tract of 20,000 acres of valuable Kentucky coal property at \$25 per acre. Furnish references when answering this. Wire or write—Southern Machinery Exchange, Somerset, Ky.

TIMBER FACTORS AND ESTIMATORS

TIMBER FACTORS AND ESTIMATORS, SANBORN & GEARHART. International Timber Lands Investigation a Specialty. American Natl. Bank Bldg., Asheville, N. C.

TIMBER LAND

FOR SALE—18,000 acres of yellow pine timbered land situated on both rail and water; timber has been worked for turpentine. Exceptionally good proposition for colonization purposes after timber has been removed. Price \$3.00 per acre in fee simple, or will sell timber privilege separate. Terms cash; buy from owner and save money. Address N. R. Hays, Apalachicola, Fla.

FOR SALE—Fine tract white oak, chestnut oak, poplar and chestnut timber estimated to cut 1,000,000 ft. Eight miles Southern Ry. station, about 40 miles from Washington, D. C. Good roads to station and favorable shipping rates. Timber runs sound, good size and lengthy. Other tracts available. F. C. Hoover, Broadway, Va.

FOR SALE—5000 acres yellow pine and mixed lumber. Estimated will cut over 15,000,000 feet lumber; in Greene and George counties, Mississippi, on river, 3 miles to railroad shipping point. Reasonable price, good title; oil and gas rights reserved. T. B. Fogg, 250 Ohio Bldg., Toledo, Ohio.

TIMBER LAND—23,000 acres, rich, high and well drained, water and rail facilities; 65,000,000 feet oak, ash, hickory and cypress, \$8 per acre for land and timber. J. L. Skinner, Jackson, Miss.

FLORIDA PINE LANDS—11,000 acres virgin pine, Orange County. Estimated cut 20,000,000. Timber worth price asked, fees simple. Good turpentine location. Fine fruit, trucking and grazing lands. J. W. Pope, Jacksonville, Fla.

FOR SALE—Several tracts virgin pine timbered lands. Peteway Investment Co., Tampa, Fla.

FOR SALE—Ten thousand acres timber land. J. C. Cole, Canton, N. C.

TIMBER

40 MILLION FEET of the highest grade stumpage in the South (75% red gum, balance cypress, oak, pine, poplar and hickory), located on a navigable river in South Carolina, within 2½ miles of Atlantic Coast Line Railway and but 6 miles therefrom at farthest point. An extra good logging proposition, with 14 years for removal of timber. Only principals need apply. Address No. 4041, care Manufacturers Record, Balto., Md.

RATES AND CONDITIONS

Rate 25 cents per line per insertion. Minimum space accepted, four lines. In estimating the cost, allow seven words of ordinary length to a line. When the advertisement contains a number of long words, proper allowance should be made. Terms: Invariably cash with order; check, postoffice or express order or stamps accepted. No display type used. Questionable or undesirable advertisements will not be accepted. The assistance of our readers in excluding undesirable advertisements is requested. We reserve the right to refuse any advertisement. No patent medicine, whiskey or mining stock advertisements accepted. Rate for special contracts covering space used as desired within one year as follows: 100 lines, 23c. per line; 300 lines, 21c. per line; 500 lines or more, 20c. per line.

TIMBER

FOR SALE—25,000,000 feet gum and cypress timber on Roanoke River, Bertie County, N. C. For price address No. 4054, Manufacturers Record, Balto., Md.

FOR SALE—6,000,000 feet pine timber two miles from Stokes, S. C., Colleton County. Apply to C. G. Padgett, Walterboro, S. C.

FOR SALE—5,000,000 feet long-leaf yellow pine. Apply to J. M. Witsell, Walterboro, South Carolina.

SPRUCE TIMBER.—30,000,000 feet spruce timber, two miles from railroad; 15 years' time to cut; good terms. Can show on short notice \$5 per 1000 feet. J. H. Maddox, 314 Candler Bldg., Atlanta, Ga.

CYPRESS TIMBER.—100,000,000 FEET CYPRESS timber with location for mill site. Located on barge-way four feet deep, to be connected with vessel loading point. Northern Monroe County, Florida, directly on Gulf of Mexico. Timber first class. None over 5 miles from mill site. Price \$5 per M. Ten years to remove timber. J. F. Jaudon, Miami, Fla.

TIMBER FOR SALE.—Own in South Carolina two big tracts timber estimated to cut 12 million feet. Good roads. Attractive price. W. H. Sanders, Hamlet, N. C.

FOR SALE—4,000,000 feet standing pine and oak, 6 miles railroad, 70 miles Pensacola, Fla. Address Dr. F. N. Brown, Sr., 406 Miller Bldg., El Paso, Tex.

TIMBER BARGAIN.—50,000,000 ft. original growth, 60% N. C. pine, 8% cypress, 8% poplar, balance red gum, etc., on Southern Ry. in South Carolina. Large amount of additional, contiguous, similar stumpage can be bought cheap. For particulars write J. P. Mulherin, Augusta, Ga.

FOR SALE—About three hundred and seventy-five million feet of the highest grade and quality of virgin long-leaf yellow pine. For particulars address J. H. Wefel, Jr., Mobile, Alabama.

FOR SALE—Fine timber proposition, 200,000 ft. pine, oak, gum, hickory, cypress on stump; good logging; investment better than bonds. J. Arthur Henderson, Charlotte, N. C.

15 MILLION FEET fine ship timber in Eastern Virginia; about half yellow pine, balance oak and hickory, all virgin growth. Green & Redd, Richmond, Va.

FOR SALE—7 million ft. of standing timber, 3 miles of N. & W. Ry. Half, large white oak, will make ship timber; balance large pine. S. J. Patillo, Crewe, Va.

SAWMILL, TIMBER, ETC.

FOR SALE—Sawmill proposition backed by 250,000,000 feet long-leaf pine and cypress. Plant in operation; double band mill, kilns and planing mill; rail and water transportation. Owners have other interest requiring entire time. Box 156, Andalusia, Ala.

CUTOVER LAND

FOR SALE—4000 acres of cut-over lands in Hillsborough County, Fla., 15 miles of Tampa, Fla. New brick highway joining with hard-surfaced road at Odessa will pass through center of property. Ask for maps and other information. Land Dept., Gulf Pine Co., Odessa, Fla.

FARM AND TIMBER LANDS

FOR SALE—Fine farm and timber land in Richmond County, North Carolina, containing about 18,000 acres, on which is estimated from 10 to 20 million feet long-leaf pine, oak, poplar, etc. Located in fine fruit section and could all be cultivated; no swamp land. Property is within 1½ miles S. A. L. Ry., 3 miles of Norfolk & Southern Ry., 7½ miles from Pinehurst, the South's greatest winter resort, near the famous Jackson Springs. Fine sand-clay roads from Pinehurst through this property. Land in this locality is selling from \$20 to \$40 per acre. Price for all cash, \$12.50 per acre. J. E. Murphy & Co., Charlotte, N. C.

1280 ACRES rich bottom, 1½ miles trunk line; no overflow; pine road; 5,000,000 oak, ash; land worth \$40 timber off; both \$20. M. C. Wade, Texarkana, Ark.

FARM AND TIMBER LANDS

WE OWN LARGE TRACTS OF TIMBER LANDS, cut-over lands and colonizing lands. If interested, address H. H. Wefel, Jr., & Co., Mobile, Alabama.

STOCK FARMS

FOR SALE—Ten thousand acres especially well adapted for a ranch, located South Alabama. If buyer stocks ranch, would require no payment for three or four years. Address H. H. Wefel, Jr., Owner, Mobile, Ala.

FARM AND GRAZING LANDS

W. W. BRIGGS & SON,
Real Estate Brokers.
328 farms for general farming and grazing, mineral, timber and coal land, in South and West, for sale. Civil Engineers and Surveyors. Levy Building, Orange, Va.

FRUIT, FARM AND TRUCK LANDS

THESE COLUMNS ARE CLOSELY READ BY PEOPLE for information of all kinds about Southern properties of every description. If you have a property of any kind that you want to dispose of, try an advertisement in these columns. Others have to their advantage. For rates see head of department.

FLORIDA

FOR A SAFE and permanent investment, Florida lands and values should interest you. Manatee County is the best location, and is destined to become one of the most progressive settlements in the State and a very profitable investment. Florida farms in Manatee County are below frost belt; have rich soil, with 35 producing days. Easy terms. J. Henry Strohmeier, Maryland Casualty Tower Building, Baltimore, Md., and Sarasota, Florida.

FREE WINTER GARDEN OF AMERICA to Fruit Growers, Truckers, General Farmers, Cattle, Hog and Poultry Raisers. Folks interested in the great Indian River Section of Florida, write Indian River Farms Company, Suite O, 609 Putnam Bldg., Davenport, Iowa.

SEA ISLAND COTTON LAND—This commodity is rising higher each year, account of the boll weevil menace. We have 1320 acres in one body, Pasco County, Fla., 200 miles below weevil-infested belt, especially adapted for Sea Island Cotton. Can be cultivated first year. Will give reasonable terms. Write for further information. Land Dept., Gulf Pine Company, Odessa, Fla.

DON'T BUY FLORIDA LAND

Unless within established drainage districts or personally inspected. Most of the richest Florida lands should be drained to insure crops. Scientific drainage is an insurance policy. 10,000 acres near Jacksonville and 5000 De Soto County, within drainage districts. Bargain prices. Any sized tracts. Terms. J. W. Pepe, Jacksonville, Fla.

TOBACCO LANDS in Madison County, Fla.

Farm of 880 acres, 500 acres cleared and stumped, in cultivation now. Ask for other information. Land Dept., Gulf Pine Company, Odessa, Fla.

GEORGIA

FARMS FOR SALE in Northwest Georgia. All kinds. If interested, write for free list. T. M. Boz, Calhoun, Ga.

MISSISSIPPI

FOR SALE—1440 acres, of which 640 prairie, 800 acres rich valley of delta formation; practically all in cultivation; two commodious dwellings, two large barns, blacksmith shop, 30 tenant-houses four bored wells; four miles to railroad on rock road; one mile to county agricultural high school; labor ample and cheap; produces one bale cotton and 75 bushels of corn to the acre, and other crops in proportion; fine for alfalfa; \$50 per acre, cash or terms.

At present prices good farmer and manager should make with a good crop purchase price in one year.

Write the owners, Box 245, Aberdeen, Miss.

MISSISSIPPI

FOR SALE—The "Wildwoods" plantation, former Delta home of the late Gen. Wade Hampton, situated on beautiful Lake Washington, in Washington County, Miss., containing 983 acres; of this 823 in a high state of cultivation and 160 acres in woodland. Hampton station, on the Y. & M. V. Railroad, is on the property. It fronts on Lake Washington, with a gravel road one mile on the west and a gravel road on the south; has all necessary tenant houses, barns, stables and two storehouses in the town of Hampton. The residence has 10 rooms and sits in a magnificent grove of live oak, water oak, pine and magnolia trees; between the residence and the lake front is a splendid acreage for golf links. The land is the finest sandy loam, and produces cotton, corn, alfalfa, beans, etc. It is in demand at \$10 and to \$20 per acre rent by good tenants. If you wish to own an ideal winter home in the South where you have fishing, quail hunting and golf, which will not only give you great pleasure, but an investment that pays a fine interest on its cost, this is the plantation. The owner, a cotton planter, desires to retire and offers this grand property at \$100 per acre; terms, all cash, or one-half cash and the balance in ten years, equal payments, notes to bear 6 per cent, per annum interest. There is included in this sale 20 head of mules and horses and a great number of plantation implements. Warranty deed and abstract of title furnished. Possession given in December, 1927. Address R. B. McMahon, Greenville, Miss.

PENNSYLVANIA

PENNA. FARMS FOR SALE.—70-acre farm, large stone dwelling, excellent barn and outbuildings, suitable for hog raising, fruit; good soil; 1 mile to R. R. depot. Price \$250. Small portion is cash. Ask for catalogue. Francis W. Wack, Schwenksville, Pa.

TEXAS

2000 ACRES of fine tobacco and grain land on improved highway, in Lunenburg Co., Va. Railway runs through this property, with siding on this property. E. M. Terry (owner), South Boston, Va.

VIRGINIA

SHENANDOAH VALLEY OF VIRGINIA. Where Blue Grass and Alfalfa Grow. In the heart of the Apple Belt. Delightful climate. Fertile soil. Write John M. Londree, Staunton, Va.

FINE COLONIAL RESIDENCE in well-shaded yard; 1 mile live village and depot; 100 acres nearly level productive land; cleared; usual outbuildings; would make beautiful country estate; \$3000. A. H. Kitchell, land, Owner, Concord Depot, Va.

BUSINESS OPPORTUNITIES

A THOROUGH AND PRACTICAL VINEGAR MAKER of over 30 years' experience in the erection, operation and maintenance of vinegar factories, former Supt. of the U. S. Industrial Alcohol Co.'s vinegar plant, Curtis Bay, Md., desires to communicate with those contemplating engaging in the above business or requiring the services of a man of above ability who is fully acquainted with the technical details of the vinegar business and its by-products. Best references, Richard Turnt, 2703 Alameda Ave., Balto., Md.

WANTED—Partner in a good hardware store in the best city in West Virginia. Stock will inventory about \$5000. Business established about 1½ years. Address No. 4047, care Manufacturers Record, Balto., Md.

PLANT FOR SALE OR RENT to manufacture aeroplanes or other implements; 3-story plant, 60x180 feet; 60 woodworking machines; 2 storage buildings, 2 stories, 130x30 feet. These buildings are of hollow tile and concrete construction and are in first-class condition. W. A. Lewis, Norwich, N. Y.

CUSPIDOR LIFTER AND CARRIER. This cuspidor lifter and carrier is operated with a rod to empty and wash without touching with your hands. Address No. 4045, care Manufacturers Record, Balto., Md.

WE ARE IN THE MARKET to buy an oil refinery of a capacity of anywhere from 500 to 1500 barrels daily. Would like full particulars as to size plant offered, what system, amount and kind of tankage and other equipment. Would expect to move plant and would have to be priced right to interest us. Give full particulars. Box 1029, Wichita Falls, Tex.

UNUSUAL OPPORTUNITY for a practical man with sufficient capital to open a foundry and machine shop in the town of Ashland, Ala., in the heart of the graphite district. Twenty large graphite plants in operation or under construction at the present time—more coming. Address Secretary Graphite Producers' Association, Ashland, Ala.

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